Your health

A report on the health of Victorians 2005

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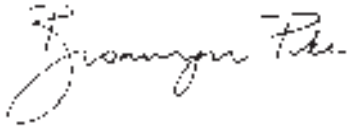
Foreword

This first report, *Your health: A report on the health of Victorians 2005*, provides the most comprehensive picture of health ever produced in Victoria. It draws on a wide range of population–based data and presents information on key health issues in an accessible and standard format, offering the reader a concise encyclopaedia of health indicators for Victoria. Each section offers simple visual representations of data, with illustrated time-series wherever possible, together with summary statements of key findings. It also has easy-to-follow links to parent sources of data for those needing more detailed information.

The release of this report serves two important functions. Firstly, it draws on a wide range of the most significant and up-to-date health-related data available in Victoria, about Victorians. The report offers a single access point for information that is otherwise included in a large number of internal and external publications and reports. Examples include data on the burden of disease in Victoria and on notifiable communicable diseases; cancer data derived from the most recently available extracts from the Victorian Cancer Register (The Cancer Council Victoria); Australian Bureau of Statistics population census data; injury surveillance data; air quality data; and data on health risk-taking behaviours.

Secondly, the release of the report coincides with a number of key government policies aimed at delivering better health and wellbeing outcomes for all Victorians, in particular, *A Vision for Victoria to 2010 and beyond: Growing Victoria together 2005*, and the recently released social policy, *A fairer Victoria*. The report uses the best data available to provide information that demonstrates the achievements of government in improving the health of Victorians over recent years. It also highlights some of the challenges ahead in addressing new epidemics of chronic diseases and emerging health inequalities across various sectors of the community. In doing so, the report offers a significant resource for policy makers and planners at a whole-of-government level, delivering new evidence about where better health and wellbeing can be achieved through improved targeting of policies, strategies and programs.

Much of the report's value is in the presentation of health descriptors that give a more comprehensive view of health status. This contrasts with more traditional approaches, where narrowly defined topics or issues are the focus of attention, and is best illustrated by profiling the Victorian population (demographic indicators) with indicators of health systems performance (for example, ambulatory care sensitive conditions and age-specific immunisation coverage), indicators of health status (for example, life expectancy and disease burden), indicators of health risk-taking behaviours (for example, smoking, nutrition and physical inactivity) and indicators of social determinants of health (such as community strength). By taking a composite view of health, we now have an opportunity to develop policy responses that are based on more holistic approaches to the delivery of public health services and programs.



Hon Bronwyn Pike MP
Minister for Health
December 2005

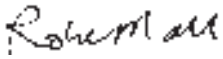
Preface

Over recent years a comprehensive population health monitoring system has been developed to support the Department's commitment to enhance the health of all Victorians through effective public health activities. It has been realised for some time that in order to progress the public health agenda in Victoria it is necessary to have better evidence, to profile the health status and health needs of the Victorian population and to document and understand trends in key health indicators and the social and community context in which they emerge.

This is the first publication of *Your health: A report on the health of Victorians 2005*. It includes sections on general health status (for example, life expectancy and disease burden), health-related behaviours (for example, smoking, nutrition and physical activity), health priority areas (for example, cardiovascular disease), environmental and social health (for example, air quality), and health inequalities (such as aboriginal health).

It is anticipated that this report will be generated as a semi-interactive web-based document in the future, allowing users to access the most current summary information on the health of Victorians in 'real time', as well as improving access to selected core data sources for local analysis and review.

I would like to take this opportunity to thank the Health Surveillance and Evaluation team in the Public Health Group for their dedication in delivering this first publication of *Your health: A report on the health of Victorians 2005*. I also want to acknowledge the contributions of a wide range of staff across the Public Health Group and the entire Department of Human Services, together with the many public health professionals across numerous external agencies who have ensured that the highest quality and most current data are included in this report.



Dr Robert G. Hall
Director of Public Health and Chief Health Officer

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Your health: A report on the health of Victorians 2005 was prepared by a team from the Health Surveillance and Evaluation Section, Strategic Support Group, Public Health. The following list indicates the key roles played by many contributors to this report.

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We thank other areas in the Department of Human Services and various external organisations for their contribution to *Your health: A report on the health of Victorians 2005.*

Department of Human Services:
- Communicable Diseases
- Immunisation
- Perinatal Data Collection Unit
- Environmental Health
- Women's Health and Wellbeing Strategy
- Office for Children
- Mental Health
- Service Planning Support

Other organisations:
- The Cancer Council Victoria
- Monash University Accident Research Centre
- Environment Protection Authority Victoria
- Service providers from the women's sector (participants in the round table forum convened to discuss women's health)

Summary

General health status

Burden of disease

- Based on the 2001 Victorian burden of disease study, cardiovascular disease, cancers and injuries were responsible for 73 per cent of the total mortality burden in both men and women.
- In people aged 75 years and over, cardiovascular diseases are responsible for over 40 per cent of the number of years lost. In young adult life, injuries are the main cause of years of life lost. Neonatal conditions dominate the mortality burden in the age group five years and under.
- Mental disorders and neurological conditions contributed most to the total non-fatal burden, accounting for over 40 per cent in both men and women.
- While cardiovascular disease, cancer and injuries were responsible for over 70 per cent of the total mortality burden, these disease categories account for only about 20 per cent of the total years lost due to disability.
- The inclusion of non-fatal health outcomes provides a substantially different picture to that provided by traditional mortality statistics, with mental disorders becoming the third leading cause of ill-health in Victoria after cancer and cardiovascular disease.
- Tobacco smoking is the risk factor responsible for the greatest burden of disease in Victoria–about 10 per cent of the total burden of disease in males and 6.2 per cent in females.

Life expectancy

- Life expectancy at birth for all Victorians continues to rise. On average in Victoria between 1996 and 2003, life expectancy at birth for a male child born in metropolitan Melbourne has increased from 76.6 to 79.3 years, while for a rural Victorian male child, it has increased from 75.3 to 77.7 years.
- On average in Victoria between 1996 and 2003, life expectancy at birth for a female child born in metropolitan Melbourne has increased from 82.0 to 84.2 years, while for a rural Victorian female child, it has increased from 81.2 to 82.8 years.
- While the gap between males and females is narrowing slowly, (because male life expectancy is improving at faster rates), the metropolitan-rural gap remains significant.

Avoidable mortality

- Based on mortality and population data for 1979–2001, mortality rates have declined for all categories of avoidable mortality. Primary avoidable mortality rates have shown a greater decline compared with secondary and tertiary avoidable mortality, highlighting the potential benefits of primary intervention.
- There were 152,629 avoidable deaths (AD) among males and 84,570 among females during the period 1979–2001. The top ten causes of AD, together with deaths classified as being unavoidable, accounted for 87 per cent of all deaths in persons aged less than 75 years.
- Ischaemic heart disease was the leading cause of avoidable deaths among males and females during the study period, followed by lung and breast cancers in males and females, respectively.

Ambulatory care sensitive conditions

- There were 174,821 hospital admissions for ambulatory care sensitive conditions (ACSCs) in 2003–04, with an average of 5.02 bed days. The rate of ACSCs admissions varied from 20.52 per 1,000 persons in 1993–94 to 33.31 per 1,000 persons in 2003–04.
- The admission rate for ACSCs in rural areas increased from 27.06 per 1,000 persons in 1993–94 to 38.00 per 1,000 persons in 2003–04. During the same 11-year period, the admission rate for ACSCs in metropolitan areas increased from 17.81 per 1,000 persons to 31.42 per 1,000 persons.

Self-rated health status

- Based on the 2004 Victorian population health survey, 51.1 per cent of females aged 35–44 years and 46.8 per cent of males aged 18–24 years rated their health as excellent or very good.

Health-related behaviours

Smoking

- Tobacco smoking accounted for 8.2 per cent of total disability-adjusted life years (DALYs) lost for Victoria in 2001.
- Of all persons aged 18 years or over, 52.9 per cent of males and 42.2 per cent of females in 2004 were found to have smoked tobacco products at some point in their lives.
- Approximately 25.0 per cent of males and 19.7 per cent of females in 2004 identified themselves as current smokers (that is, they reported smoking daily or occasionally).

Nutrition

- Three per cent of total DALYs were attributed to inadequate fruit and vegetable intake (less than 600 grams per day) in 2001.
- Of all persons aged 18 years or over, 7.0 per cent usually consumed five or more serves of vegetables each day in 2004.
- A greater proportion of females than males consumed the recommended number of daily serves of vegetables (10.1 per cent and 3.6 per cent respectively) in 2004.
- Older persons were found to be the largest consumers of vegetables, with 14.9 per cent of females aged 45–54 years and 5.3 per cent of males aged 65 years or over consuming five or more serves daily in 2004.

Alcohol consumption

- The proportion of adults who consumed alcohol at levels above the threshold for short term alcohol harm at least weekly was greatest in the 18–24 years age group for both sexes in 2004.
- More than 5 per cent of males in the age groups 18–24 years and 55–64 years consumed alcohol at levels considered to be risky or high risk in terms of long term health consequences in 2004.

Physical activity

- Seven per cent of persons aged 18 years or over did not undertake any physical activity during the week before the survey in 2004.
- The proportion of persons reporting no physical activity was greatest in the oldest age groups, with 13.1 per cent of those aged 65 years or over not undertaking any moderate-intensity or vigorous physical activity in the previous week.
- Overall, 58.6 per cent of males and 55.1 per cent of females attained the threshold for physical activity (to provide health benefits) as per the national guidelines.
- The proportions of males and females who were sufficiently active on most days of the week were similar for most age groups.

Overweight/obesity

- In 2004, similar proportions of males (14.3 per cent) and females (14.7 per cent) were classified as obese, while 41.7 per cent of males and 23.3 per cent of females were classified as overweight.
- The proportion of males categorised as either overweight or obese ranged from 28.8 per cent of those aged 18–24 years, to 68.6 per cent of those aged 45–54 years.
- The proportion of females categorised as overweight or obese ranged from 16.6 per cent of those aged 18–24 years, to 56.5 per cent of those aged 55–64 years.

Health priorities

Cardiovascular disease

- Cardiovascular disease was responsible for almost 18 per cent of the total disease burden in Victoria in 2001, or 60,389 DALYs in males and 54,664 in females. Over 75 per cent of this attributable burden is due to mortality. Ischaemic heart disease and stroke are the major contributors, accounting for 53 per cent and 29 per cent of the cardiovascular disease burden respectively.
- In 2004, persons aged 50 years or over were significantly more likely to have had their blood pressure checked recently, compared with persons aged less than 50 years.
- Screening for elevated blood cholesterol levels was found to be higher among those aged 50 years or over, with 78.5 per cent of males and 72.2 per cent of females in this age group reporting that they had undergone a recent cholesterol check in 2004.
- There were 39,958 hospital admissions for ischaemic heart disease as first (principal) diagnosis in 2003–04, with an average of 3.96 bed days. The overall admission rates for ischaemic heart disease varied from 7.61 per 1,000 persons in 1999–2000, to 7.30 per 1,000 persons in 2003–04.
- Hospital admission rates for ischaemic heart disease were between 15 per cent and 22 per cent higher in rural Victoria compared with metropolitan areas over the five-year period 1999–2004.
- There were 3,195 hospital admissions for stroke as first (principal) diagnosis in 2003–04, with an average of 3.81 bed days. The overall hospital admission rate for stroke was fairly steady , varying from 5.85 per 10,000 persons in 1999–2000 to 5.70 per 10,000 persons in 2003–04.
- Hospital admission rates for stroke were higher in rural Victoria compared with metropolitan areas during 1999–2003, but in 2003–04, the rates for stroke in rural and metropolitan areas were almost identical.

Diabetes

- Type 2 diabetes was the second leading cause of disease burden (DALYs) in males and the sixth in females in 2001.
- The attributable disease burden in 2001 was actually even larger because diabetes increases the risk of certain other conditions. When the attributable burden is taken into account, diabetes is the top ranked cause of disease burden in both men and women.
- Excluding females diagnosed with diabetes only during pregnancy, 4.7 per cent of adults reported in 2004 ever being told by a doctor that they had diabetes. The prevalence of diabetes among adults increased with age, and individuals aged 65 years or over reported the highest rate (13.7 per cent).
- There were 16,447 hospital admissions for diabetes as first (principal) diagnosis in 2003–04, with an average of 5.24 bed days.
- There were 121,751 hospital admissions for diabetes on any diagnosis (principal or other) in 2003–04, with an average of 6.15 bed days. The overall hospital admission rates for diabetes on any diagnosis increased steadily from 18.41 per 1,000 persons in 1999–2000 to 22.57 per 1,000 persons in 2003–04.
- Diabetes hospital admission rates for rural areas were above those for metropolitan areas throughout 1999–2004; 2 per cent above in 1999–2000, increasing to 11 per cent above in 2003–04.

Cancer

- Cancer was responsible for about 20 per cent of the total disease burden in Victoria in 2001, or 71,141 DALYs in males and 64,011 in females.
- In males, lung, prostate and colorectal cancers dominate, accounting for almost 50 per cent of the overall burden attributable to cancer.
- In females, breast, lung and colorectal cancers dominate, accounting for over 50 per cent of the overall burden (DALYs) attributable to cancer.
- Bowel cancer was the leading cancer site in Victorians in 2002. In men it ranked second after prostate cancer and in women, second after breast cancer.
- Breast cancer incidence in women continued to increase at around 2 per cent per year between 1992 and 2002, largely due to mammographic screening.
- Since 1995, prostate cancer incidence rates have fallen from almost 170 to 130 per 100,000 men, and appear to have stabilised.
- Lung cancer remains the fourth most common new cancer in Victoria (2,065 new cases) and was the leading cause of cancer death in 2002. Incidence rates continue to decline in men and increase slightly in women.
- Melanoma was the fifth most common new cancer in Victorians in 2002, accounting for 8 per cent of new cancers.

Asthma

- Chronic respiratory disease was responsible for 7 per cent of the total disease burden (DALYs) in Victoria in 2001. Asthma was responsible for over a third of this burden. Younger age groups were most likely to have ever been diagnosed with asthma, with 28.2 per cent of males and 8.9 per cent of females aged 18–24 years reporting ever being told by a doctor that they had the condition in 2004.
- There were 9,041 hospital admissions for asthma as principal diagnosis in 2003–04, with an average of 2.28 bed days . The overall rate of hospital admission for asthma has decreased from 2.15 per 1,000 persons in 1999–2000 to 1.89 per 1,000 persons in 2003–04. There has been a decline in the rates of asthma hospital admissions in both rural and metropolitan areas. The rural admission rates for asthma declined from 2.66 per 1,000 persons in 1999–2000 to 2.13 per 1,000 in 2003–04, a 19.9 per cent reduction. During the same period, admission rates in metropolitan areas declined from 1.95 per 1,000 persons to 1.80 per 1,000 persons, a 7.7 per cent reduction.

Injury and poisoning

- Injury remains a leading cause of death, illness and disability. Injuries were responsible for about 9 per cent of the overall disease burden in men in 2001, or 29,707 DALYs. The burden in females was less than half this, at 12,203 DALYs.
- There were an estimated 1,715 injury deaths and 96,235 hospital admissions for injury (excluding medical injury) in 2002.
- The leading causes of injury deaths were suicide, mostly by hanging and carbon monoxide poisoning (31 per cent); transport, predominantly involving car occupants (25 per cent); falls (21 per cent); and unintentional poisoning (9 per cent).
- The leading causes of injury hospitalisations were falls, mainly slips, trips and stumbles and falls on the same level (42 per cent); and transport, mainly car occupant and motorcyclist injury (14 per cent).
- In 2001–02, 1,700 persons died due to injury and poisoning, an age adjusted death rate of 35.1 per 100,000 persons. These figures exclude 20 deaths from medical injury causes.
- In 2002–03, 53,419 persons were admitted to Victorian hospitals due to injury and poisoning, an age adjusted admission rate of 1,085 per 100,000 persons. These figures exclude 20,226 medical injury hospitalisations and a further 32,921 same-day injury hospitalisations.

Mental health

- Mental illness was responsible for about 15 per cent of the total disease burden in 2001, or 46,390 DALYs in males and 48,027 DALYs in females. Less than 5 per cent of this attributable burden is due to premature mortality, largely due to substance use disorders.
- Affective and substance use disorders together account for almost 80 per cent of the burden attributable to mental illness.
- In males, depression ranks as the fifth leading cause of overall burden, while the fifteenth and seventeenth to twentieth ranks are occupied by schizophrenia, generalised anxiety disorder, alcohol dependence, heroin or poly-drug use, and borderline personality disorder.
- In females, depression ranks as the fourth leading cause of overall burden, while generalised anxiety disorder, borderline personality disorder and schizophrenia rank eleventh, fifteenth and eighteenth, respectively.
- In 2004, more than 3 per cent of Victorians aged 18 years or over had scores of 30 or greater on the Kessler 10 scale and were classified as likely to be at high risk of being affected by psychological distress.
- There were 45,664 hospital separations for males with a mental health-related principal diagnosis in 2003–04, a rate of 187.8 separations per 10,000 males. These separations accounted for 404,676 patient days. Among females, there were 73,540 hospital admissions in 2003–04, a rate of 293.9 separations per 10,000 females.

Musculoskeletal disorders

- Musculoskeletal disease was responsible for 3 per cent of the total Victorian disease burden in 2001, or 7,114 DALYs in males and 11,121 in females.
- Osteoarthritis is the single biggest contributor, accounting for about 53 per cent of the overall burden attributable to musculoskeletal disease.
- In 2003–04, there were 1,251 hospital admissions for rheumatoid arthritis with an average of 4.8 bed days. The overall rate of hospital admission for rheumatoid arthritis has remained fairly constant since 1999–2000. Admission rates for rheumatoid arthritis were higher in rural areas than in metropolitan areas over the five-year period.
- In 2003–04, there were 18,049 hospital admissions for osteoarthritis with an average of 5.6 bed days. The overall rate of hospital admission for osteoarthritis has increased by 27.3 percent since 1999–2000. Admission rates for osteoarthritis were higher in rural areas than in metropolitan areas over the five-year period.
- In 2003–04, there were 2,094 hospital admissions (1,610 female and 484 male) for osteoporosis with an average of 6.7 bed days. The overall rate of hospital admission for osteoporosis has increased from 2.95 in 1999–2000 to 3.85 per 10,000 persons.

Mothers' and children's health

- The annual crude birth rate in the female resident population aged 15–44 years has declined from 64.8 per 1,000 persons in 1986 to 58.6 in 2002.
- The maternal mortality ratio has fallen from 67.2 per 100,000 live births in 1953 to 4.8 in 2003.
- The average age of women giving birth in 2002 was 30.2 years, with the proportion aged 35 years and over having risen to 20.5 per cent (almost doubling) in the last ten years.
- The overall proportion of births to women younger than 20 years has remained steady at just over 3 per cent in recent years. The maternal age distribution varies across regions.
- The proportion of vacuum extractions was 6.4 per cent in 2002. The proportion of forceps births continued to decline, with a corresponding increase in the proportion of vacuum extractions and elective and emergency caesareans.
- The proportion of pre-term births has remained stable, around 7.5 per cent since 1998, while the proportion of births at 42 or more weeks gestation has reduced from 4.5 per cent in 1990 to 1.2 per cent in 2002.
- The proportion of low birth weight (less than 2,500 grams) and very low birth weight (less than 1,500 grams) babies has steadily risen since 1986, increasing from 5.9 per cent and 1.1 per cent to 6.9 per cent and 1.6 per cent respectively in 2002.
- In 2003, there were 2,205 babies born at or after 20 weeks gestation with a birth defect. There were another 339 identified as terminations of pregnancy for a birth defect before 20 weeks gestation. The overall birth defect prevalence rate was 4.0 per cent.
- The live birth prevalence rate for birth defects in 2003 was 3.3 per cent. Of babies born at 20 weeks or later with a birth defect, 111 (5.0 per cent) were stillborn and 94 (4.1 per cent) were neonatal deaths. This gives a perinatal mortality rate of 930 per 10,000 births for infants with birth defects.
- In 2004, 52.0 per cent of infants were fully breastfed at three months. The proportion of infants fully breastfed at three months ranged from 47.9 per cent in the North and West Metropolitan Region to 57.4 per cent in the Grampians Region.
- In 2003, 304 infants died in the first year of life. The infant mortality rate was 4.6 per 1,000 live births.
- In 2003, seven infant deaths (including one infant aged less than one month) were attributed to Sudden Infant Death Syndrome (SIDS). The number of infant deaths from SIDS was 131 in 1985.
- Overall, the leading cause of death for post-neonatal infants and children was birth-related conditions, particularly birth defects.
- In 2003 there were 41 post-neonatal infant and child deaths due to unintentional injuries. The number of deaths resulting from motor vehicle accidents reduced from 43 in 1990 to 24 in 2003. The number of deaths due to drowning declined from 24 in 1990 to three in 2003.

Communicable diseases

- According to the Notifiable Infectious Diseases Surveillance (NIDS) database maintained by the Department of Human Services, notified cases of influenza by age group showed higher notification in children (2001–04).
- Notifications of invasive pneumococcal disease were marginally higher in 2003 than in 2002, with children aged less than two years and the elderly being most vulnerable.
- Measles continued to occur in young adults, particularly those born between 1968 and 1981, and unvaccinated children.
- Notifications for pertussis have declined over the last five years.
- There has been a decline in the number of cases of invasive meningococcal group C disease between 2000 and 2004, attributable to the introduction of the national meningococcal C immunisation program, which commenced in January 2003.
- In 2004 there were 61,814 children aged 24–27 months recorded on the Australian Childhood Immunisation Register (ACIR), of whom 92.6 per cent had been fully immunised; 94.5 per cent for rural regions and 91.9 per cent for metropolitan regions.

- In 2004, the coverage of influenza vaccination among individuals aged 65 years or over was 81.6 per cent in Victoria, compared with a national average of 79.1 per cent. Valid usage of influenza vaccine was 72.6 per cent for Australia and 76.2 per cent for Victoria.
- There are approximately 1,000 cases of salmonellosis notified in Victoria each year. In 2004, there were seven point-source outbreaks of salmonellosis investigated.
- While the number of hepatitis A cases in 2004 was low, a large number of cases occurred between mid-1999 and mid-2000 due to an outbreak among injecting drug users. In 2004, the rate was highest among children aged 0–9 years.
- In 2004, 27 cases of Q fever were notified, compared with 19 in 2003 and 82 in 2002. Two outbreaks in 2001 and 2002 were both associated with abattoirs in regional Victoria.
- Numbers of notified cases of psittacosis have been increasing over the past few years, with 156 notifications in 2004, 89 in 2003 and 34 in 2002. The most recent outbreaks occurred at a poultry processing plant in rural Victoria (26 cases) and at a game processing plant (four cases).
- In 2004, there were 7,639 notifications of chlamydia, a 17.9 per cent increase in notifications for 2003. Of these, 41.3 per cent were for males and 57.9 per cent for females.
- In 2004, there were 422 notifications of syphilis. Of these, 85 were classified as infectious, a 55 per cent increase in the notifications received in 2003.

Environmental and social health

Environmental health

- In the early 1980s, it was common for the ozone objectives not to be met in Melbourne. Significant improvement has occurred since then with breaches of the objectives recorded recently about once every two years. This is mainly due to progressive improvements in vehicle emission standards.
- With the exception of 2003, Melbourne has been meeting the national goal for particles as PM10. Drought-related impacts (dust storms and bushfires) during the summer in 2003 contributed to the marked increase in particle exceedences.
- The long term trend for visibility in the Melbourne–Geelong region indicates that during the last 20 years, visibility problems have become less frequent. Improvements are a direct consequence of controls placed on industry, motor vehicles and backyard burning, and the efforts of the community in response to Environment Protection Authority education and communication programs.
- The incidence data since 1997 shows relatively steady rates of Legionella infection, with the large outbreak of more than 100 cases in April–May 2001 being associated with the Melbourne Aquarium. Since that time, incidence rates have increased slightly, which may reflect more testing due to better awareness of Legionella as a cause of severe pneumonia.
- Notified cases attributed to *L. pneumophila* have fallen from a high of 239 in 2000, to 70 in 2004. There has been a marked reduction in the number of department-tested cooling tower water samples that were shown to be positive for Legionella. The percentages of Legionella-positive samples were 9.5 in 2000, 7.3 in 2001, 6.6 in 2002, 5.0 in 2003 and a slight increase to 5.6 in 2004.

Social and community context

- In 2004, most adults felt that they could obtain help from friends and family members when needed, while 8.4 per cent of males and 8.0 per cent of females reported they might not.
- Almost one in three persons aged 18 years and over helped out a local group as a volunteer.
- Although most persons felt valued by society, almost one in ten males responded they did not feel valued.
- In 2004, more than 76 per cent of persons agreed that people can be trusted.
- In 2002, there were approximately 1,838,000 households in Victoria, of which 24.3 per cent were lone-person households and 43.6 per cent comprised three or more persons.
- In 2002, there were approximately 1,348,000 families in Victoria, of which 45.0 per cent were couple-only families.
- In 2004, 69.7 per cent of the total Victorian population in the eligible age group received either a full or a part pension.
- In 2004, disability support pensions were paid at a rate of 61.8 per 1,000 persons aged 15–64 years, or 6.2 per cent of people in the eligible age group.
- In 2002, the proportion of individuals who were owners without a mortgage varied by remoteness area–39.3 per cent of those from major cities, 46.2 per cent of those from inner regional areas and 52.1 per cent of those from other areas.
- Private health insurance coverage in Victoria remained stable between 1999 and 2004, with participation rates for hospital and ancillary coverage of 42.3 per cent and 31.4 per cent, respectively, at December 2004.
- Persons who did not complete year 12 education varied, from a low of 47.8 per cent in the Eastern Metropolitan Region to a high of 71.5 per cent in the Gippsland Region.
- The years 7–12 retention rates in Victorian schools increased, from 76.2 per cent in 1999 to 81.1 per cent in 2004, which is above the Australian average retention rate of 75.7 per cent.
- In 2001, the average score on the Index of Education and Occupation at the statistical local area level was 991; the median was 969 and the Australian average was 1000.
- The unemployment rate has declined from 11.8 per cent in 1993–94 to 5.7 per cent in 2002–03.

- Over the ten-year period from 1993–94 to 2002–03, the male labour force participation rate has declined from 73.9 per cent to 71.8 per cent while the female participation rate increased from 52.1 per cent to 56.0 per cent. In August 2004, trend average weekly ordinary time earnings for full-time adult employees were $768.10. The figure for males was $927.10 and $590.00 for females.
- The proportion of part-time workers (those who usually work less than 35 hours per week) increased from 24.0 per cent in 1993–94 to 28.7 per cent in 2002–03. The proportion of employees without leave entitlements increased from 21.3 per cent to 25.7 per cent over the five-year period 1999–2003, largely occurring in female employees.
- In 2004, the proportion of individuals who were unable to raise $2,000 within a week for something important ranged from a high of 30.7 per cent of those in the lowest quintile of equivalised gross household income to 3.5 per cent of those in the highest quintile.
- In 2001, the proportion of children who lived in low income families (less than $600 per week) ranged from 13.5 per cent in the Eastern Metropolitan Region to 27.4 per cent in the Gippsland Region.
- In 2003, police recorded a total of 17,140 assaults, a rate of 349 per 100,000 persons. Males were recorded as having the highest assault victimisation rates across all age groups. In 2003, police recorded a total of 52 victims of sexual assault per 100,000 persons. Females represented 85.6 per cent of victims while males represented 8.9 per cent.
- In 2001, the health impact of intimate partner violence in women under the age of 45 years accounted for an estimated 9 per cent of the total disease burden.

Health inequalities

Aboriginal and Torres Strait Islander peoples

- Victoria had 6.1 per cent of the total national Indigenous population in 2001.
- The proportion of the Indigenous population aged less than 15 years was 48.7 per cent compared with 26.7 per cent for non-Indigenous persons. Persons aged 65 years or over comprised 3.1 per cent of the Indigenous population and 13.1 per cent of the non-Indigenous population.
- In 2002, the mean equivalised gross household income of the Victorian Indigenous adult population was $423 per week, compared with $657 per week for the non-Indigenous population. Compared with non-Indigenous individuals, Indigenous individuals are almost twice as likely to be in the lowest decile of equivalised gross household income in all areas.
- In 2001–02, 13.6 per cent of births to Indigenous mothers were of low birth weight (less than 2,500 grams), compared with 6.8 per cent for babies born to non-Indigenous mothers.
- The overall perinatal mortality rate for the period 1998–2002 was 21.5 per 1,000 births for babies born to Indigenous mothers, compared with a rate of 9.8 per 1,000 births for babies born to non-Indigenous mothers.
- In 2002, 28.2 per cent of Indigenous people in Victoria reported their health as fair or poor. The proportion of Indigenous Victorians who reported their health status as excellent or very good decreased from 49.4 per cent in 1994 to 41.8 per cent in 2002.
- In 2002, 51.8 per cent of the Indigenous population were current smokers.
- In 2003–04, the hospital admission rates for ACSCs for Indigenous people in Victoria were 161.0 per 1,000 persons, compared with 35.0 per 1,000 for non–Indigenous people.
- Age-adjusted hospitalisation rates among Indigenous people are higher than those for non-Indigenous people for a range of health problems and disease conditions including diabetes, ischaemic heart disease, asthma, and injury and poisoning.

Socio-economic determinants of health

- Between 1996 and 2003, the life expectancy at birth for males born in the most advantaged population quintile has improved from 78.0 to 80.3 years, while for males born in the least advantaged population quintile, it rose from 74.7 to 77.8 years.
- Over the same period, the life expectancy at birth for females born in the most advantaged quintile has improved from 83.0 to 84.9 years, while for females born in the least advantaged quintile, it rose from 80.7 to 83.4 years.
- The proportion of males and females who assessed their health status as excellent or very good in 2004 was similar between the least and most disadvantaged quintiles.
- Hospital admission rates for total ACSCs were higher (35.1 per 1,000 persons) in the most disadvantaged quintile compared with the least disadvantaged (25.6 per 1,000 persons) in 2003–04.
- The rates of avoidable mortality were higher in the most disadvantaged quintile compared with the least disadvantaged (1997–2001).
- Hospital admission rates for diabetes on first diagnosis were 67 per cent higher in the most disadvantaged quintile compared with the least disadvantaged in 2003–04. In 2003–04, hospital admission rates for ischaemic heart disease, stroke and asthma, were respectively 33 per cent, 14 per cent and 47 per cent higher in the most disadvantaged quintile compared with the least disadvantaged.
- In 2004, 21.3 per cent of males living in relatively less disadvantaged areas were current smokers, compared with 29.7 per cent of those living in areas scoring in the most disadvantaged areas.

- A significantly lower proportion of females living in the most advantaged areas reported that they consumed more than four drinks per occasion at least yearly, compared with those living in the most disadvantaged areas (33.8 per cent and 45.4 per cent respectively). No differences were observed among males.
- The proportion of males and females who reported that they consumed the recommended five or more serves of vegetables per day was similar for in the highest and lowest quintile in 2004.
- In 2004, there was little variation in the proportion of males and females who engaged in sufficient regular physical activity between the most and the least disadvantaged areas.
- A significantly greater proportion of females living in the most disadvantaged areas were classified as overweight or obese compared with females in the least disadvantaged areas. The proportion of males classified as overweight or obese was similar for both levels of disadvantage.

Rural health

- In 2003, approximately 72 per cent of the the state's population lived in metropolitan areas, and 28 per cent lived in rural/regional areas.
- Remoteness was associated with higher rates of avoidable mortality among males and females in 2001.
- Hospital admission rate ratios of total ACSCs for 2003–04 were 1.38 in lower Accessibility/Remoteness Index of Australia (ARIA) access areas, 1.22 in areas with mid-range access and 0.98 in areas with higher access.
- The highest hospital admission rate ratio for 2003–04 was 1.80 for diabetes complications in lower ARIA access areas.
- Remoteness was associated with higher hospital admission rates for diabetes (any diagnosis) and osteoarthritis. Compared with areas that were highly accessible, moderately accessible areas had hospital admission rates that were 39 per cent and 10 per cent higher, respectively.

Introduction

The current approach to chronic disease surveillance in Victoria is based on the development of a number of high quality strategic projects in recent years that have now become part of core health surveillance business. These projects have been developed to fill specific information gaps (in major business needs and applications) in Public Health, and more broadly across the Department of Human Services regions and local community settings.

Specific opportunities have been identified (using available data systems and approaches to analysis) to build a surveillance system for Victoria that functions in an equivalent manner to existing communicable diseases surveillance systems. This surveillance system is known as the Victorian Health Information and Surveillance System (VHISS).

An internet-based version of VHISS has now been developed, and the expanded publication *Your health: A report on the health of Victorians 2005* can be readily downloaded from this site. The development of VHISS provides several advantages to our clients and policy makers, including:

- the standardisation of reports on a core set of chronic disease indicators for Victoria
- the capacity to generate real-time reports on the web, together with hard copy reports on indicators presented in time series format
- the introduction of a stable and accessible surveillance reporting structure
- improved accessibility to core surveillance data by central and regional users in the department
- efficient compilation of a suite of public health indicators for periodic distribution.

About this report

This is the first publication of *Your health: A report on the health of Victorians 2005*. The report displays selected public health indicators, which are standardised to monitor trends over time. Several sources of data were used to develop these indicators.

Some indicators are based on pre-existing analyses of data from the Health Surveillance and Evaluation Section of the department such as the Victorian ambulatory care sensitive conditions (ACSC) study, the Victorian burden of disease study, and the Victorian population health survey (VPHS).

Some of the public health indicators, including indicators of mothers' and children's health, and communicable disease indicators based on notifiable infectious diseases data, have been developed using data from other program areas in the department. External sources of data (from the Victorian Cancer Registry and the Australian Bureau of Statistics (ABS), for example) were used to develop additional indicators.

Content

This report has five sections:

Section 1: General health status
Section 2: Health-related behaviours
Section 3: Health priority areas
Section 4: Environmental and social health
Section 5: Health inequalities.

Section 1 includes health status and health outcomes indicators on burden of disease, life expectancy at birth, avoidable mortality, ambulatory care sensitive conditions, and self-reported health. Time series and cross-sectional data are provided at a state-wide and small-area level, to identify changes in health status and to present current health profiles.

Section 2 presents information on risk factors and health-related behaviours for the selected public health indicators of smoking, nutrition, alcohol and physical inactivity among adults. These indicators are based on the VPHS (2004).

Section 3 contains information on national health priority areas including cardiovascular disease, diabetes, cancer, asthma, injury and poisoning, mental health, and selected musculoskeletal conditions such as rheumatoid arthritis, osteoarthritis and osteoporosis. Mothers' and children's health and key communicable diseases indicators are also presented.

Section 4 provides indicators of air quality developed with the Environment Protection Authority, and Legionella indicators developed with the environmental health program area (Public Health) of the department. Social and community indicators such as volunteering and trust are based on the VPHS (2004), while indicators on weekly earnings, employment, crime rate, and housing are based on the ABS data.

Section 5 presents indicators on key health issues of aboriginal health using the ABS and hospital separations data in Victoria. Health-related behaviours and health outcomes (self-reported health, ACSCs, avoidable mortality, life expectancy, and selected national health priority areas) are stratified by quintiles of Index of Relative Socioeconomic Disadvantage obtained by the ABS to identify differentials in the health of Victorians by socio-economic factors in Victoria. Differentials in rural health are described using the Accessibility/Remoteness Index of Australia.

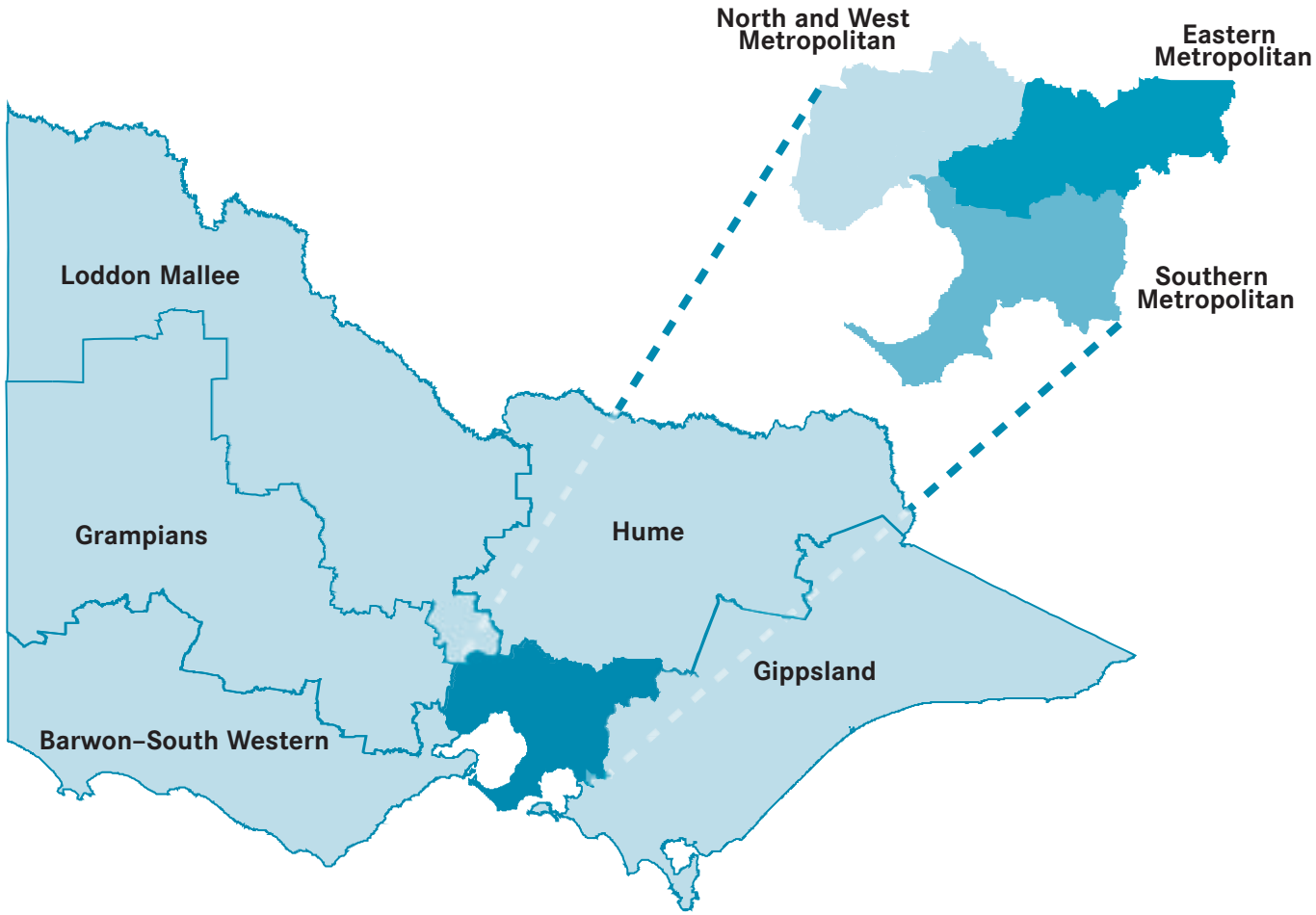
Sources and methods

A wide range of data sources has been used to develop and analyse selected public health indicators. These sources of data and statistical methods are summarised in the appendix.

Web version

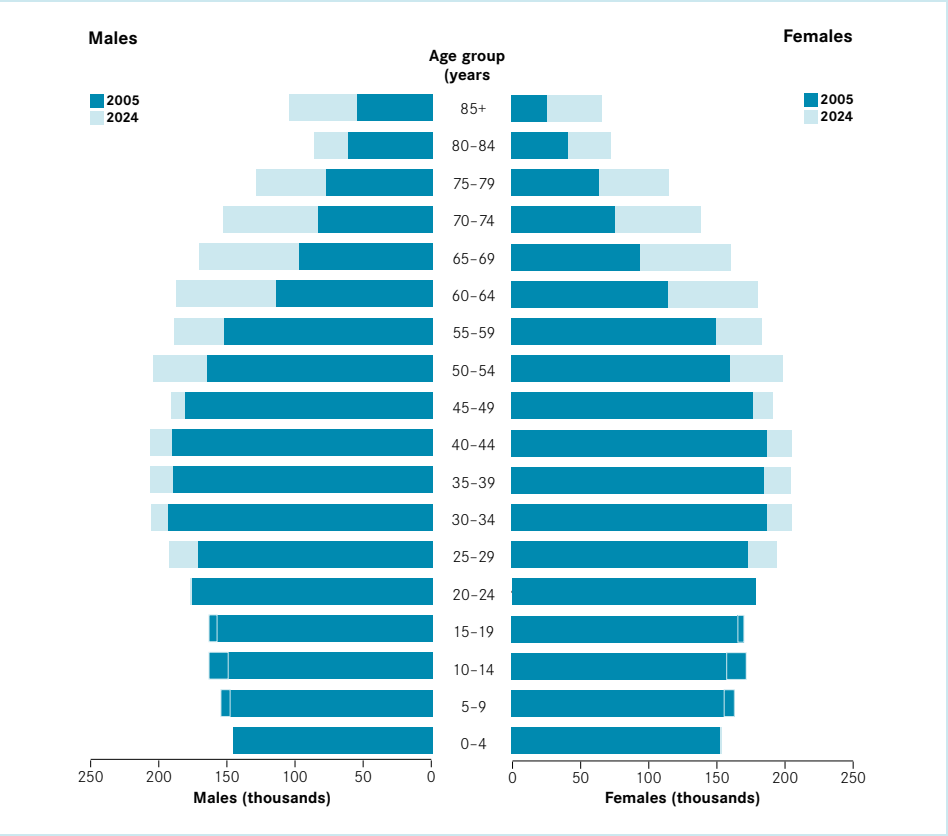
The web version of this report includes the development of an internet web page, which displays charts and tables. This is a static version of the VHISS, that is, the end user is unable to manipulate the data.

Victorian Department of Human Services regions



Victorian population

Estimated Victorian resident population, 2005, and projected population, 2024



Note: Population estimates are at 30 June each year. Where a bar does not have a segment for 2024, the number of people in that category is predicted to decrease by 2024. The predicted number is shown as a lighter coloured line on the overlying 2005 bar.

Source: Australian Bureau of Statistics estimated residential populations based on 2001 Census counts.

The estimated resident population (ERP) is an estimate of the Victorian population that links people to a usual place of residence in Victoria. It is obtained by adding to the estimated population at the beginning of each period the components of natural increase (on a usual residence basis) and net overseas migration. Account is also taken of estimated interstate movements involving a change of usual residence. Usual residence is defined as that place where each person has lived or intends to live for six months or more from the reference date for data collection. After each census, estimates for the preceding intercensal period are revised to ensure that the total intercensal increase agrees with the difference between the ERPs at the two respective census dates.

There were 4,612,097 people counted in Victoria on the 2001 Census night, excluding overseas visitors. This represents an increase of approximately 6 per cent since the 1996 Census and 9 per cent since the 1991 Census.

Approximately 72 per cent of the Victorian population lived in the metropolitan department regions in 2001, with the remaining 28 per cent living in the department's rural regions.

Approximately half the Victorian population was aged 35 years or more (median age of 34 years for males and 36 years for females) in 2001. The median age was 33 years (32 years for males and 34 years for females) in 1996, and in 1991, it was 32 years (31 years for males and 33 years for females).

The female population slightly outnumbered the male population in 2001. There were 2,348,591 females and 2,263,506 males, accounting for 51 per cent and 49 per cent respectively of the total Victorian population.

Females aged 60 years or more made up 18.2 per cent of the Victorian female population, and females aged 80 years or more made up only 4.1 per cent. Males aged 60 years or more made up 15.3 per cent of the Victorian male population, and males aged 80 years or more made up 2.3 per cent of the male population.

For more information

Australian Bureau of Statistics website,
www.abs.gov.au

Victorian population by department region

There are eight department regions:

The **Barwon–South Western Region** incorporates an area of 29,635 square kilometres. It covers the south-west of the state, from Queenscliff in the east to the far south-west border that Victoria shares with South Australia. This region had an estimated population of 350,801 on 30 June 2004.

The **Grampians Region** covers an area of 47,980 square kilometres and extends east to west from Bacchus Marsh to the South Australian border, and north to south from Patchewollock to Lake Bolac. It had an estimated population of 213,316 in 2004.

The **Loddon Mallee Region** is located in the north-west corner of Victoria and covers an area of 59,149 square kilometres (approximately 26 per cent of the state), making it the largest department region in terms of geographic area. It had an estimated population of 302,043 in 2004.

The **Hume Region** covers an area of 40,427 square kilometres in provincial north–east Victoria and provides services to a number of cities, a range of small towns and many farming and agricultural communities, some of which are relatively isolated. The region also includes Victoria's alpine areas. It had an estimated population of 259,947 in 2004.

The **Gippsland Region** covers an area of 41,538 square kilometres (approximately 18 per cent of the state). The region extends from the outskirts of the Eastern Metropolitan Region growth area of Cardinia Shire, to the New South Wales border. It had an estimated population of 245,931 in 2004.

The former Northern Metropolitan Region and Western Metropolitan Region were combined to form the **North and West Metropolitan Region** in February 2004, with a total area of 2,980 square kilometres. The former Northern Metropolitan Region included inner urban, outer urban and semi-rural areas with a considerable diversity in population spread. The former Western Metropolitan Region covered inner suburban areas and semi-rural areas and was the most culturally diverse region in the state (an estimated 34.3 per cent of the region speaks a language other than English at home). The North and West Metropolitan Region had an estimated population of 1,455,283 in 2004.

The **Eastern Metropolitan Region** covers an area of 2,966 square kilometres and includes inner suburbs such as Kew and Hawthorn, large outer metropolitan suburbs such as Croydon, and semi-rural townships such as Healesville. It had an estimated population of 972,904 in 2004.

The **Southern Region** covers an area of 2,888 square kilometres and extends from inner urban suburbs such as Port Melbourne to the Mornington Peninsula, eastward across suburban and industrial areas through to Pakenham and numerous small towns on the metropolitan and rural fringe. This region had an estimated population of 1,172,463 in 2004, the largest of the department's regions.

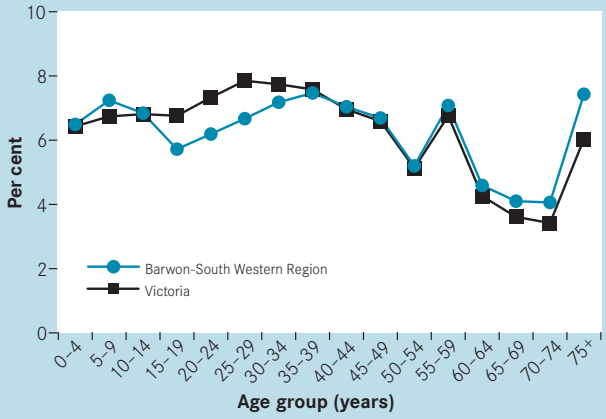
The series of graphs following show the percentage of each region's population at each specified age, and allows a comparison with the age breakdown for Victoria. Relative to Victoria as a whole, the rural regions (Barwon–South Western, Grampians, Loddon Mallee, Hume and Gippsland) tend to have a higher proportion of children aged less than 15 years and a lower proportion of adults aged 20–39 years. The North and West Metropolitan Region has a lower proportion of people aged 15–34 years than the Victorian average.

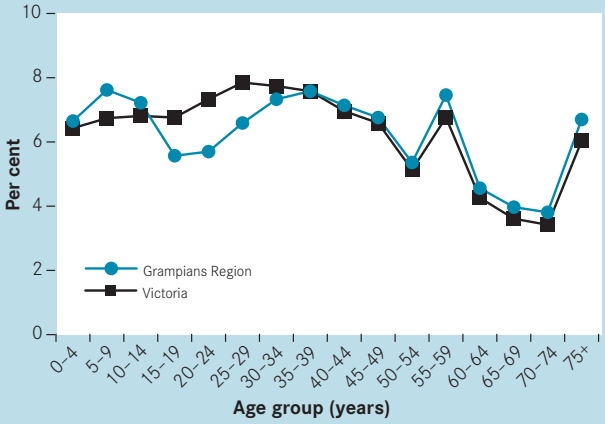
For more information

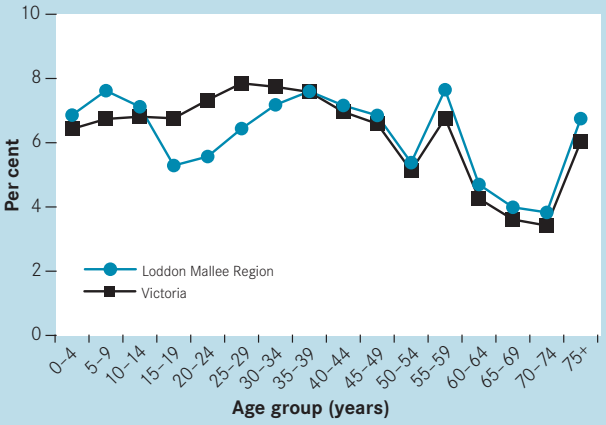
Australian Bureau of Statistics website,
www.abs.gov.au

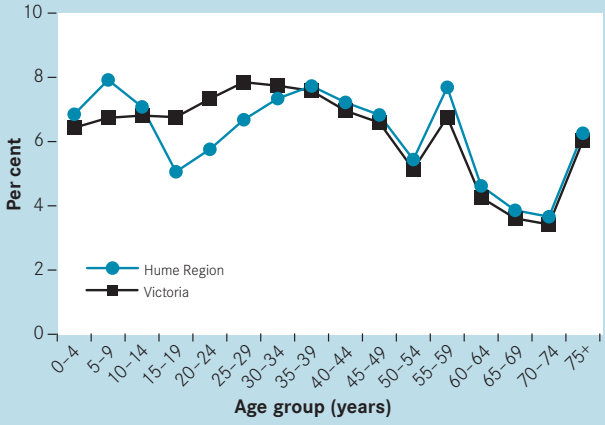
Victorian population profile by department region

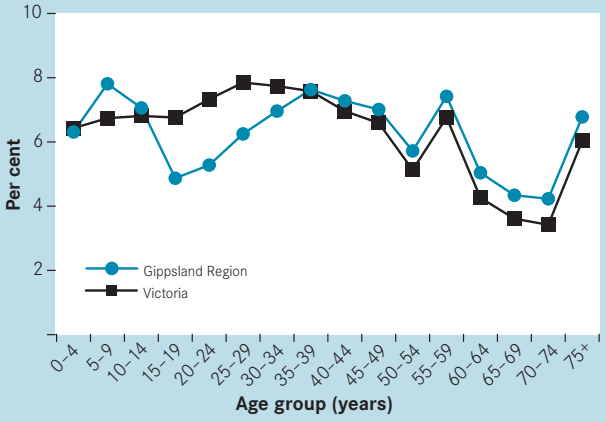
Population profile, department regions, 2001

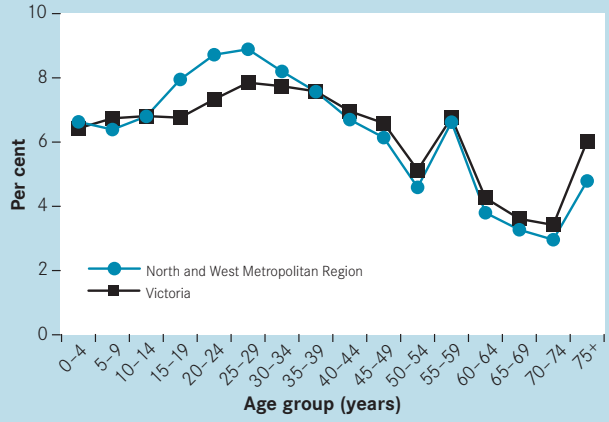


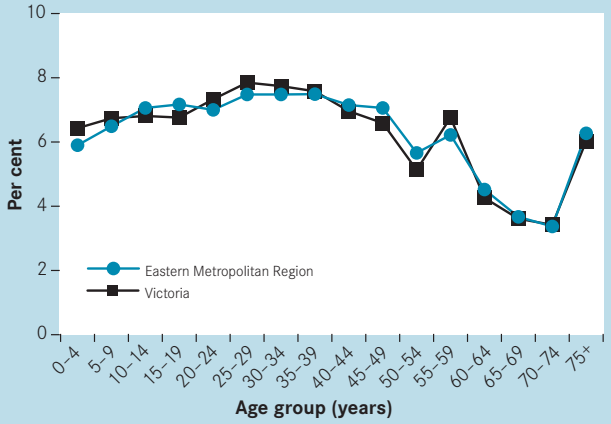


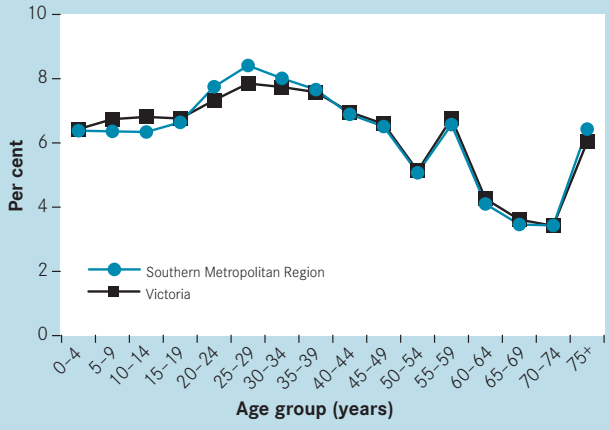












General health status

This section includes health status and health outcomes indicators on burden of disease, life expectancy at birth, avoidable mortality, ambulatory care sensitive conditions, and self-reported health. Time series and cross-sectional data are provided at a state-wide and small-area level, to identify changes in health status and to present current health profiles.

Burden of disease

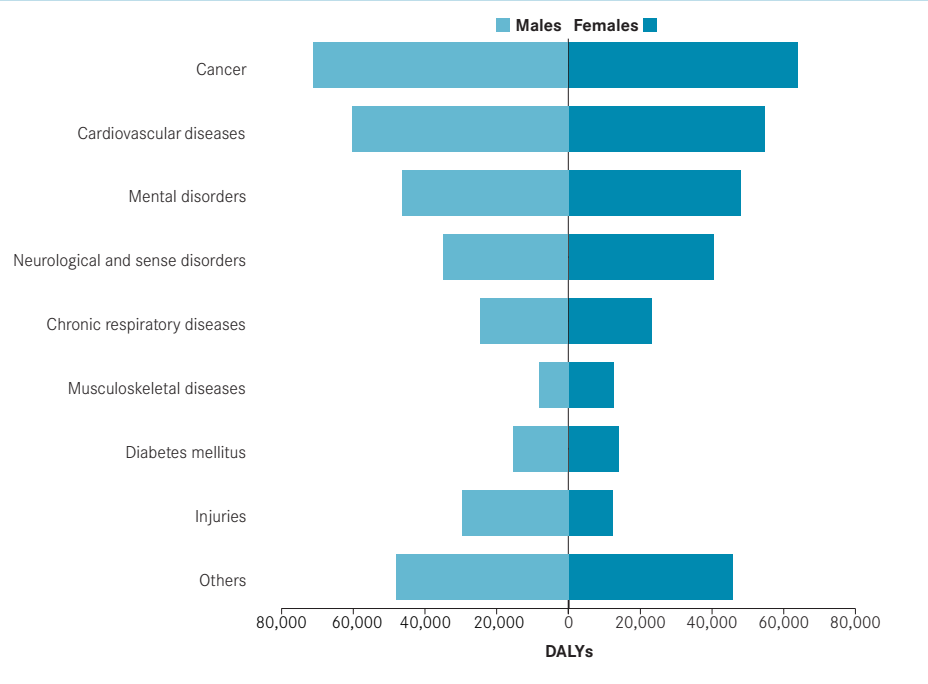
In this chapter

Summary

- Based on the 2001 Victorian burden of disease study, cardiovascular disease, cancers and injuries were responsible for 73 per cent of the total mortality burden in both men and women.
- In people aged 75 years and over, cardiovascular diseases are responsible for over 40 per cent of the number of years lost. In young adult life, injuries are the main cause of years of life lost. Neonatal conditions dominate the mortality burden in the age group five years and under.
- Mental disorders and neurological conditions contributed most to the total non-fatal burden, accounting for over 40 per cent in both men and women.
- While cardiovascular disease, cancer and injuries were responsible for over 70 per cent of the total mortality burden, these disease categories account for only about 20 per cent of the total years lost due to disability.
- The inclusion of non-fatal health outcomes provides a substantially different picture to that provided by traditional mortality statistics, with mental disorders becoming the third leading cause of ill-health in Victoria after cancer and cardiovascular disease.
- Tobacco smoking is the risk factor responsible for the greatest burden of disease in Victoria–about 10 per cent of the total burden of disease in males and 6.2 per cent in females.

Disability-adjusted life years (DALYs)

The disease and injury burden by sex and broad disease grouping, Victoria, 2001



	Males		Females	
	DALYs	Percentage	DALYs	Percentage
Others	48,009	14	45,868	15
Injuries	29,707	9	12,203	4
Diabetes mellitus	15,315	5	13,868	4
Musculoskeletal diseases	8,154	2	12,494	4
Chronic respiratory diseases	24,516	7	23,233	7
Neurological and sense disorders	34,790	10	40,363	13
Mental disorders	46,390	14	48,027	15
Cardiovascular diseases	60,389	18	54,664	17
Cancer	71,141	21	64,011	20
TOTAL	**338,409**		**314,732**	

The overall size of the burden of disease and injury in Victoria in 2001 was 338,409 disability–adjusted life years (DALYs) lost in men and 314,732 in women. With the exception of injuries, musculoskeletal diseases and neurological and sense disorders, the proportions attributable to selected main causes are similar for both sexes. Cardiovascular diseases and cancer contribute equally, together accounting for 38 per cent of the total burden. Mental disorders are the next largest contributors, accounting for a further 15 per cent in both sexes. In men, 9 per cent of the total burden is attributable to injuries, more than twice that experienced by women.

For more information

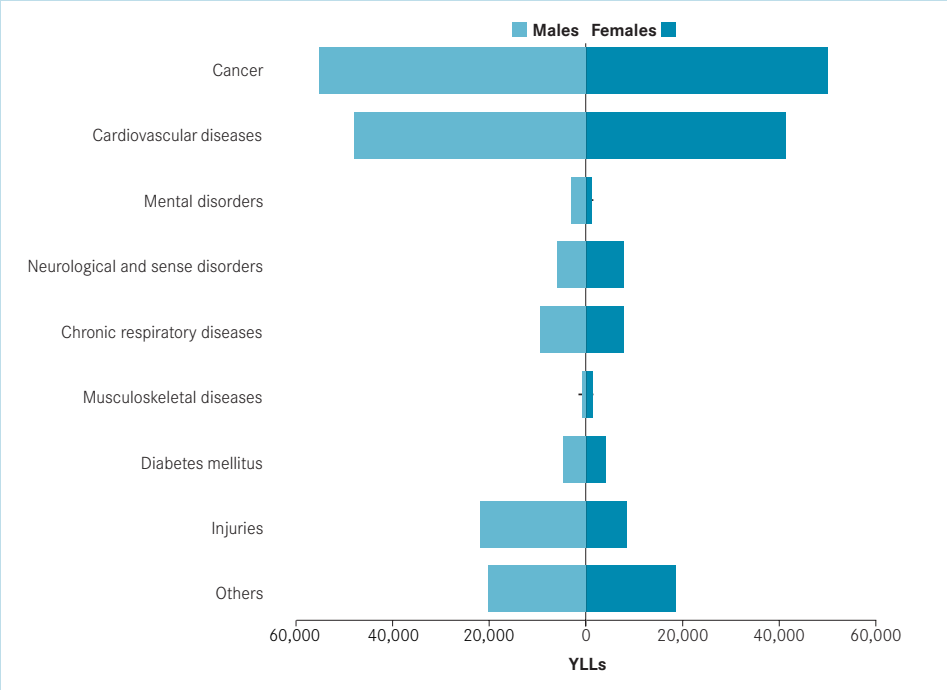
Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

Dr Leonard S Piers, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4868**, **Leonard.Piers@dhs.vic.gov.au**

Years of life lost (YLLs)

The mortality burden in YLL by sex and broad disease grouping, Victoria, 2001



	Males		Females	
	YLLs	Percentage	YLLs	Percentage
Others	20,271	12	18,572	13
Injuries	21,753	13	8,481	6
Diabetes mellitus	4,581	3	3,984	3
Musculoskeletal diseases	687	0	1,436	1
Chronic respiratory diseases	9,484	6	7,848	6
Neurological and sense disorders	5,978	4	7,839	6
Mental disorders	3,079	2	1,138	1
Cardiovascular diseases	47,852	28	41,264	29
Cancer	55,131	33	50,093	36
TOTAL	**168,817**		**140,654**	

Premature mortality was responsible for 168,817 years of life lost (YLLs) in men and 140,654 years lost in women in 2001. Cardiovascular disease, cancers and injuries were responsible for 73 per cent of the total mortality burden in both men and women. Cancers are a more important cause of years of life lost than cardiovascular disease at all adult ages below 75 years. In people 75 years and over, cardiovascular diseases are responsible for over 40 per cent of the number of years lost. In young adult life, injuries are the main cause of years of life lost. Neonatal conditions dominate the mortality burden in the under five-years age group.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

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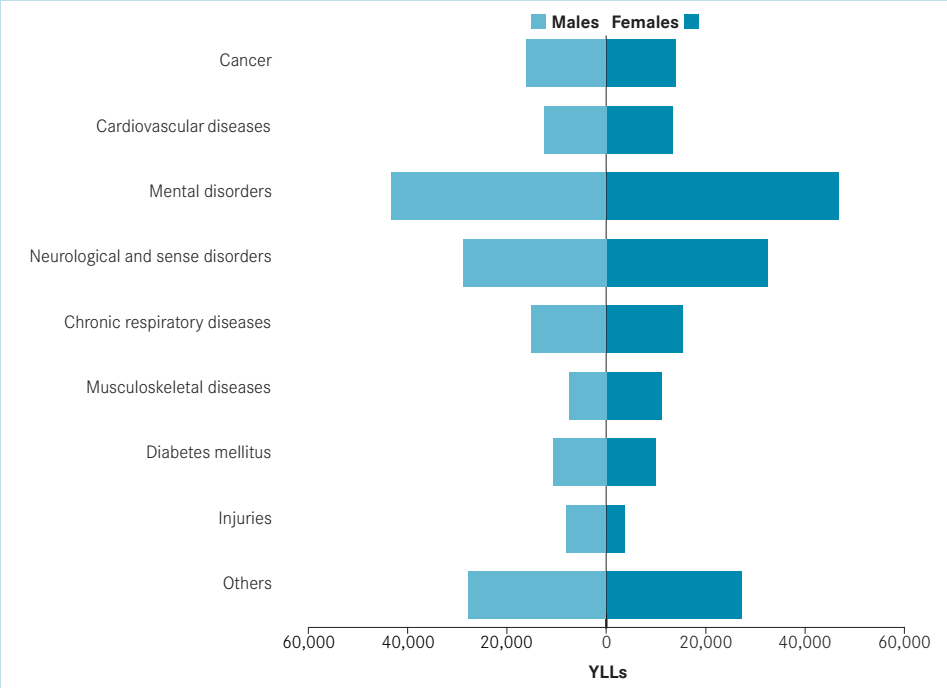
Years of life lost due to disability (YLDs)

The morbidity burden in YLDs by sex and broad disease grouping, Victoria, 2001



	Males		Females	
	YLDs	Percentage	YLDs	Percentage
Others	27,737	16	27,296	16
Injuries	7,953	5	3,722	2
Diabetes mellitus	10,733	6	9,884	6
Musculoskeletal diseases	7,467	4	11,058	6
Chronic respiratory diseases	15,031	9	15,386	9
Neurological and sense disorders	28,812	17	32,524	19
Mental disorders	43,311	26	46,889	27
Cardiovascular diseases	12,537	7	13,400	8
Cancer	16,010	9	13,919	8
TOTAL	**169,593**		**174,078**	

Non-fatal diseases and injuries were responsible for 169,593 years lost due to disability (YLDs) in males and 174,078 in females in 2001, or about half the total burden of disease and injury in Victoria. Mental disorders and neurological conditions contributed most to the total non-fatal burden, accounting for over 40 per cent in both men and women. While cardiovascular disease, cancer and injuries were responsible for over 70 per cent of the total mortality burden, these disease categories account for only about 20 per cent of the total years lost due to disability.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

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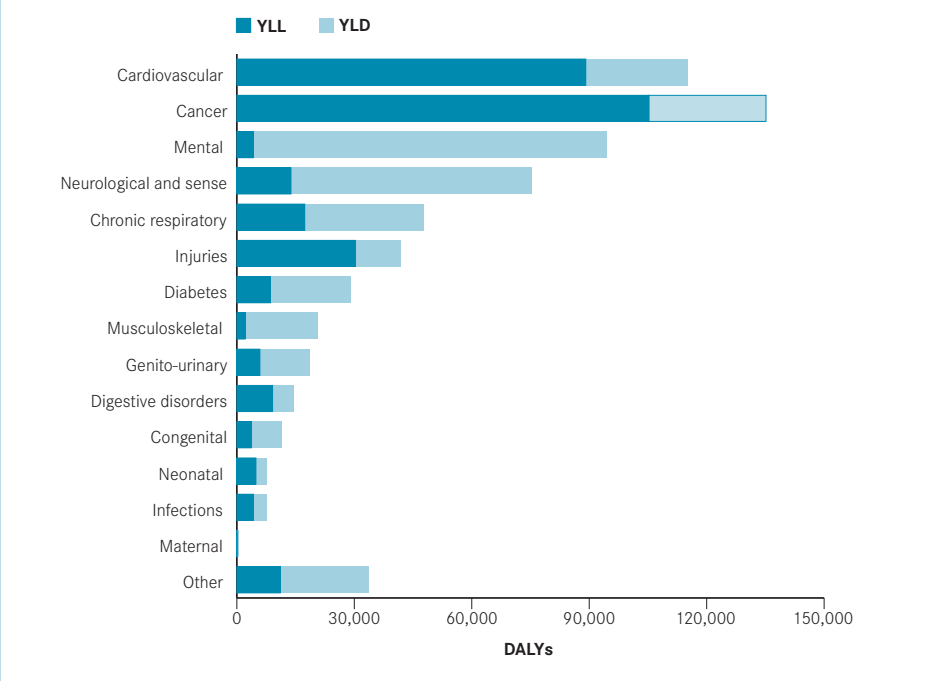
DALYs by specific disease and injury categories

Burden of disease (YLL, YLD and DALYs) for major disease groups, Victoria, 2001



Major Disease Group	YLLs	YLDs	DALYs	DALYS (%)
Other	11,080	22,567	33,647	5
Maternal	25	373	397	0
Infections	4,203	3,404	7,608	1
Neonatal	4,868	2,754	7,622	1
Congenital	3,666	7,744	11,411	2
Digestive disorders	9,122	5,459	14,581	2
Genito-urinary	5,878	12,733	18,611	3
Musculoskeletal	2,123	18,525	20,648	3
Diabetes	8,565	20,617	29,183	4
Injuries	30,234	11,675	41,910	6
Chronic respiratory	17,332	30,417	47,749	7
Neurological and sense	13,817	61,336	75,153	12
Mental	4,217	90,200	94,417	14
Cancer	105,223	29,928	135,152	21
Cardiovascular	89,116	25,938	115,053	18
TOTAL	**309,471**	**343,670**	**653,141**	

The inclusion of non-fatal health outcomes provides a substantially different picture to that provided by traditional mortality statistics. Mental disorders become the third leading cause of ill-health in Victoria after cancer and cardiovascular disease. Neurological and sense disorders and chronic respiratory diseases make a larger contribution than injuries.

For more information

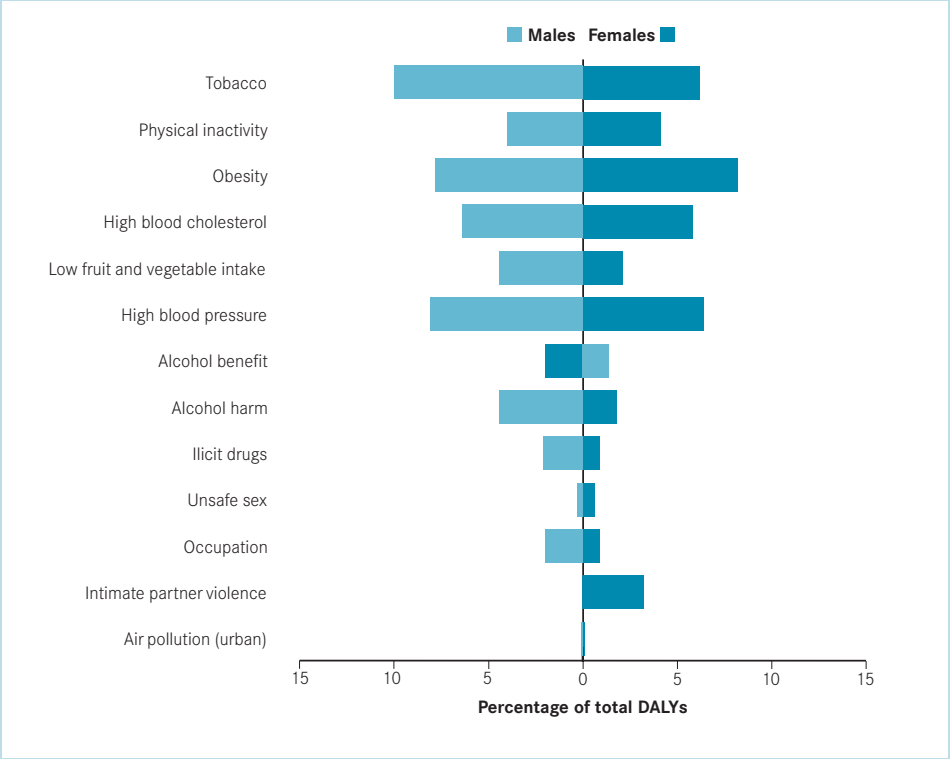
Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

Dr Leonard S Piers, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4868**, **Leonard.Piers@dhs.vic.gov.au**

Disease burden of selected risk factors

The proportion of total disease burden attributed to selected risk factors



Risk factors, including lifestyle factors (such as tobacco smoking, physical inactivity, alcohol consumption, diet, unsafe sex, intimate partner violence), physiological states (such as obesity, high blood pressure, high cholesterol) and societal conditions (such as occupational exposures, air pollution), are responsible for a sizeable proportion of the total burden of disease in Victoria.

Tobacco use (8.2 per cent), body mass (8.0 per cent), blood pressure (7.3 per cent) and cholesterol (6.1 per cent) are each responsible for a greater burden than stroke, the second leading cause of disease burden. Physical inactivity (4.1 per cent), inadequate intake of fruits and vegetables (3.3 per cent), intimate partner violence (3.2 per cent in women) and the harm caused by alcohol (3.1 per cent) rank in size with the top ten conditions, while illicit drugs (1.5 per cent), occupational hazards (1.5 per cent) and unsafe sex (0.4 per cent) rank in size with diseases in the second half of the top twenty causes of burden.

Tobacco smoking is the risk factor responsible for the greatest burden of disease in Victoria, about 10.0 per cent of the total burden of disease in males and 6.2 per cent in females.

The net harm associated with alcohol consumption is around 1.4 per cent of the total burden, because the injury and chronic disease burden associated with harmful and hazardous levels of alcohol consumption is offset by the burden of cardiovascular disease prevented by alcohol consumption. The protective effect is relevant only after age 45, whereas the harmful effects of alcohol are apparent at all ages.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

Dr Leonard S Piers, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4868**, **Leonard.Piers@dhs.vic.gov.au**

Life expectancy

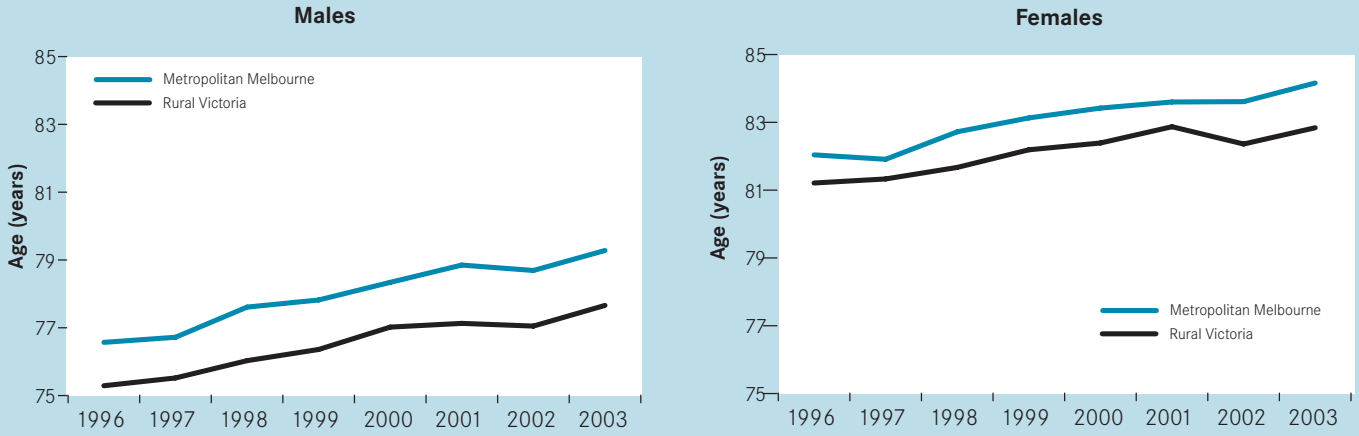
In this chapter

Summary

- Life expectancy at birth for all Victorians continues to rise. On average in Victoria between 1996 and 2003, life expectancy at birth for a male child born in metropolitan Melbourne has increased from 76.6 to 79.3 years, while for a rural Victorian male child, it has increased from 75.3 to 77.7 years.
- On average in Victoria between 1996 and 2003, life expectancy at birth for a female child born in metropolitan Melbourne has increased from 82.0 to 84.2 years, while for a rural Victorian female child, it has increased from 81.2 to 82.8 years.
- While the gap between males and females is narrowing slowly, (because male life expectancy is improving at faster rates), the metropolitan–rural gap remains significant.

Life expectancy at birth: metropolitan–rural comparison

Life expectancy at birth, by sex, metropolitan-rural comparison, Victoria, 1996–2003



Source: Australian Bureau of Statistics, Mortality data; Census of population and housing, 1996 and 2001.

Life expectancy at birth for Victorian males and females was calculated (for each year from 1996 to 2003 inclusive) using an abridged period-life table with five-year age groups to 85+. It is constructed using the age group and sex-specific mortality rates obtained during each year and applied to a synthetic cohort of 100,000 people. This is a convenient summary index of mortality conditions prevailing in a population at a point in time.

Life expectancy at birth is an estimate of the average length of time that a person can expect to live, assuming that the current mortality rates for each age group will remain constant for the lifetime of that person. Mortality rates can, of course, be expected to improve during a person's lifetime.

Life expectancy at birth for all Victorians continues to rise. Whether measured for Victoria as a whole, or for the smallest Victorian local government area, there is improvement. The life expectancy estimate and rate of improvement varies between men and women and between rural and metropolitan areas. Rural areas are defined as the Department of Human Services' rural regions, with the Melbourne metropolitan area as the comparator.

Between 1996 and 2003 in Victoria, on average, life expectancy at birth for a male child born in metropolitan Melbourne has increased from 76.6 to 79.3 years, while for a rural Victorian male child, it has increased from 75.3 to 77.7 years.

During the same period in Victoria, on average, life expectancy at birth for a female child born in metropolitan Melbourne has increased from 82.0 to 84.2 years, while for a rural Victorian female child, it has increased from 81.2 to 82.8 years.

While the gap between males and females is narrowing slowly (because male life expectancy is improving at faster rates), the metropolitan–rural gap remains significant.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Life expectancy*, www.health.vic.gov.au/healthstatus/le.htm

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Life expectancy at birth by local government area

Life expectancy at birth for all Victorians continues to rise. Life expectancy for a male child born in Victoria in 2003 has reached 78.8 years while it is higher at 83.8 years for a female child.

The rate of improvement varies between males and females, between rural and metropolitan areas and between well-off areas and less well-off areas of Victoria.

Over the period 1999–2003, on average, a Victorian male child could expect to live 78.1 years, while a female could expect to live 83.3 years, a difference of 5.2 years in favour of females.

Compared with the period 1997–2001, Victorian male life expectancy at birth rose statistically significantly by 1.0 per cent, while Victorian female life expectancy at birth improved by 0.7 per cent, a difference of 0.3 per cent in favour of males. The annual improvement in life expectancy has been greater for males over many years.

Nillumbik (81.5) is the local government area (LGA) with the highest male life expectancy. Melbourne (85.7) has the highest female life expectancy, with Nillumbik (85.2) a close second.

Compared with the period 1997–2001, life expectancy at birth has improved statistically significantly in males in only two LGAs; Banyule (1.7 per cent) and Greater Dandenong (1.8 per cent). No LGA has shown statistically significant change in female life expectancy.

The gap between the highest and lowest male life expectancy among LGAs is six years (Nillumbik 81.5 and Latrobe 75.3). The gap between the highest and lowest female life expectancy in LGAs is five years (Melbourne 85.7 and Melton 80.8).

The gap between highest and lowest male life expectancy in LGAs has widened over the period 1997–2001 and 1999–2003, from 5.8 to 6.2 years, while for females the gap has also increased slightly, from 4.7 to 4.9 years.

Twelve LGAs have higher than state-average male life expectancy, while 36 LGAs have lower. Thirteen LGAs have higher than state-average female life expectancy, while 23 LGAs have lower.

The lower than average LGAs are mostly located in rural Victoria, with the exceptions being Darebin, Frankston, Greater Dandenong, Maribyrnong, Port Phillip and Yarra for males, and Knox, Melton, Port Phillip and Yarra for females.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Life expectancy*, www.health.vic.gov.au/healthstatus/le.htm

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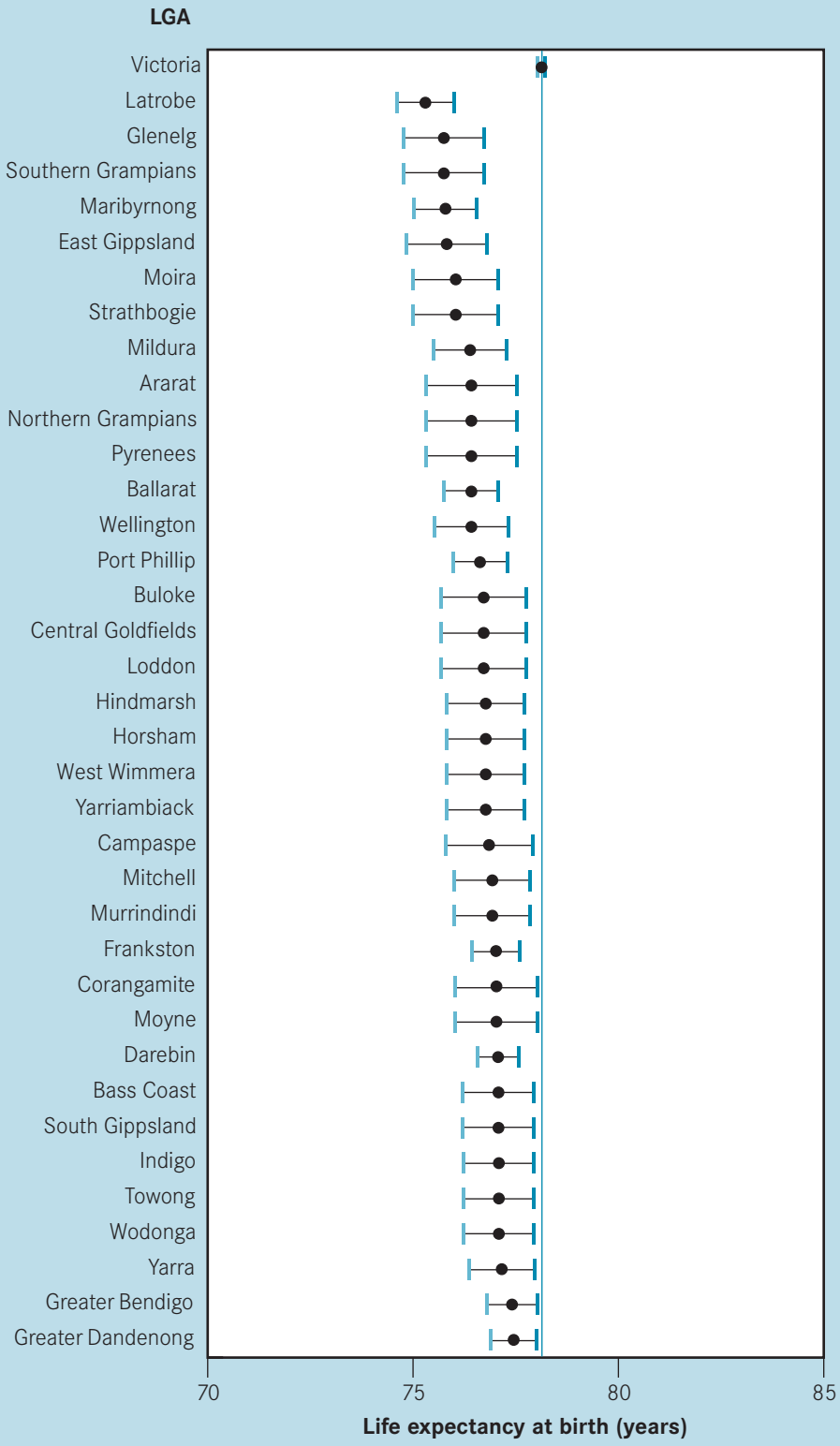
Anne Magnus, Health Surveillance and Evaluation Section, Public Health Group, Department of Human Services, telephone **61 3 9637 4241**, **Anne.Magnus@dhs.vic.gov.au**

Male life expectancy at birth by local government area

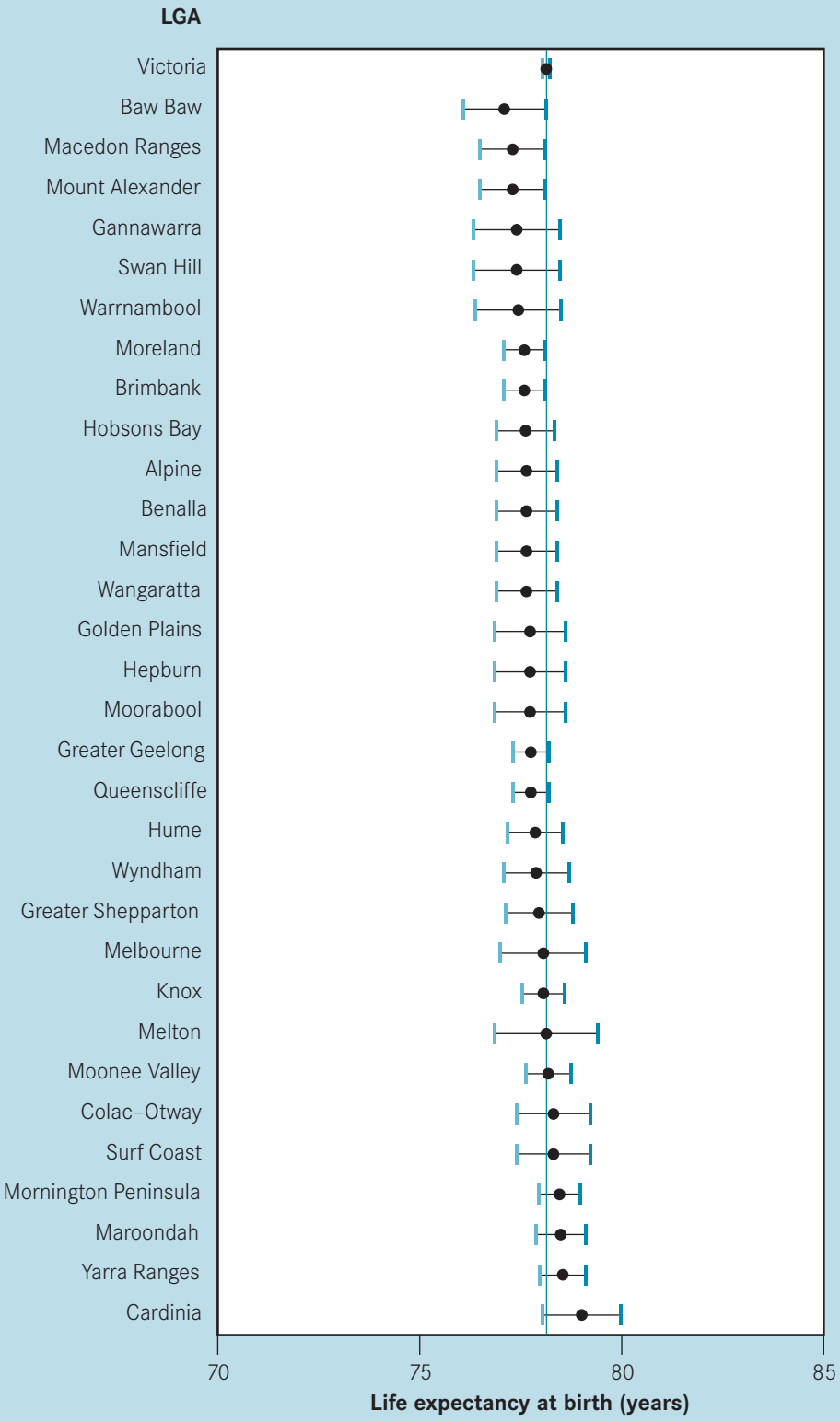
Life expectancy at birth (below Victorian average) for males, by local government area (LGA), Victoria, 1999–2003



Source: Australian Bureau of Statistics, Mortality data; Census of population and housing, 1996 and 2001.

Male life expectancy at birth by local government area

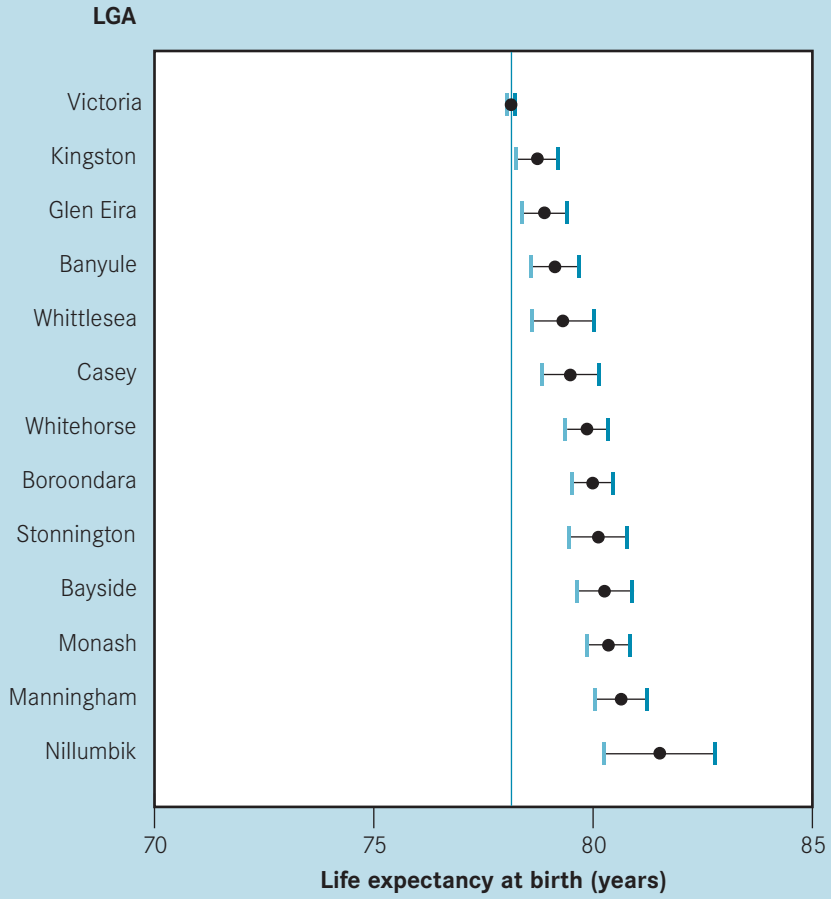
Life expectancy at birth (equal to Victorian average) for males, by local government area (LGA), Victoria, 1999–2003



Source: Australian Bureau of Statistics, Mortality data; Census of population and housing, 1996 and 2001.

Male life expectancy at birth by local government area

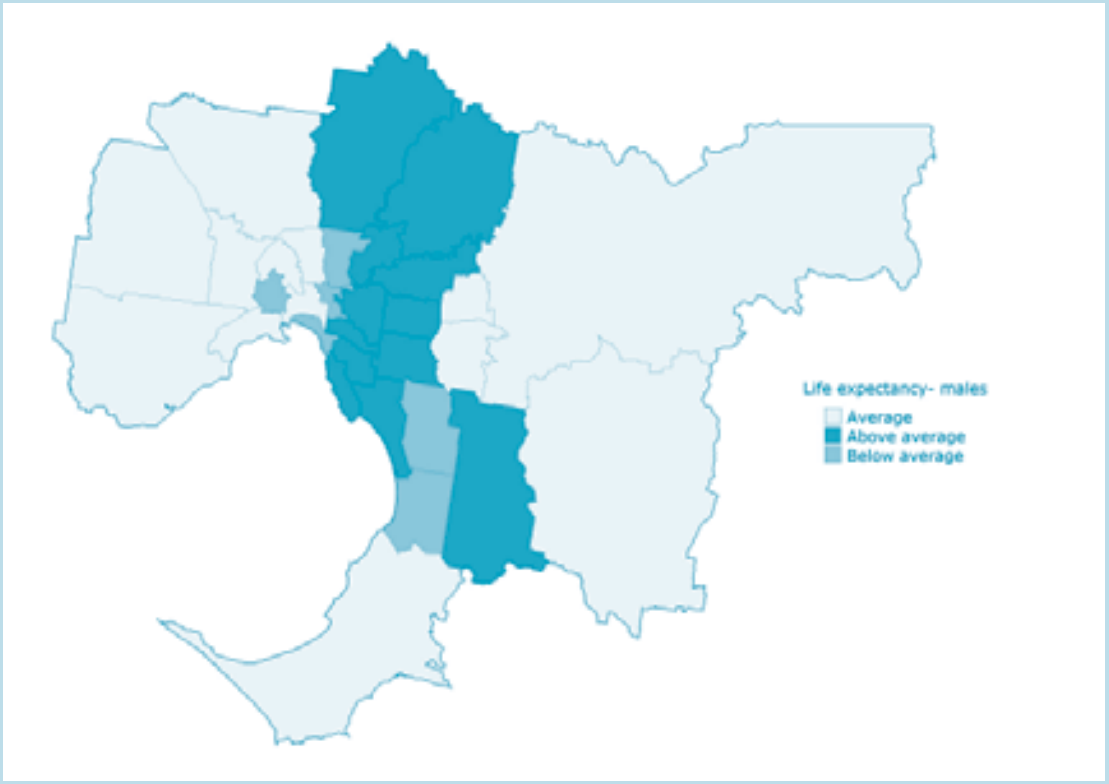
Life expectancy at birth (above Victorian average) for males, by local government area (LGA), Victoria, 1999–2003



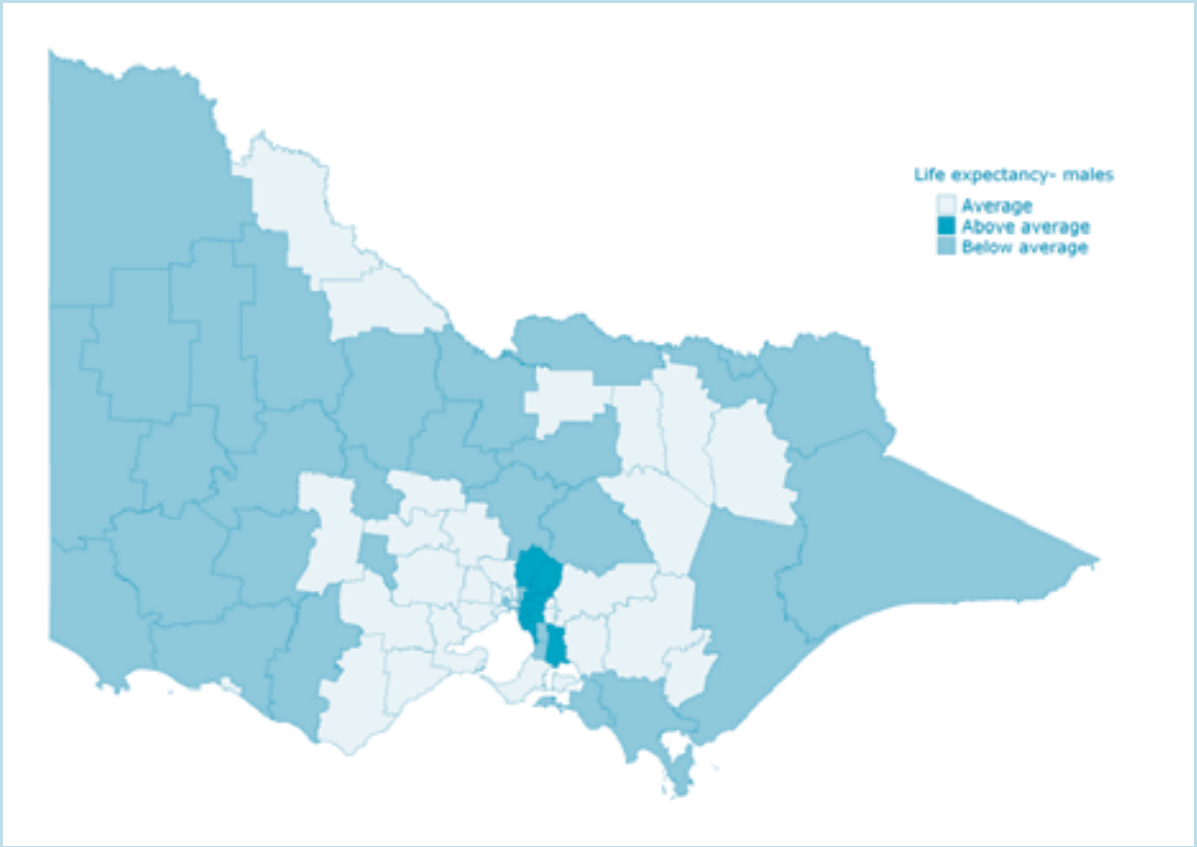
Source: Australian Bureau of Statistics, Mortality data; Census of population and housing, 1996 and 2001.

Male life expectancy at birth by local government area

Life expectancy at birth by local government area, males, metropolitan Melbourne, 1999–2003



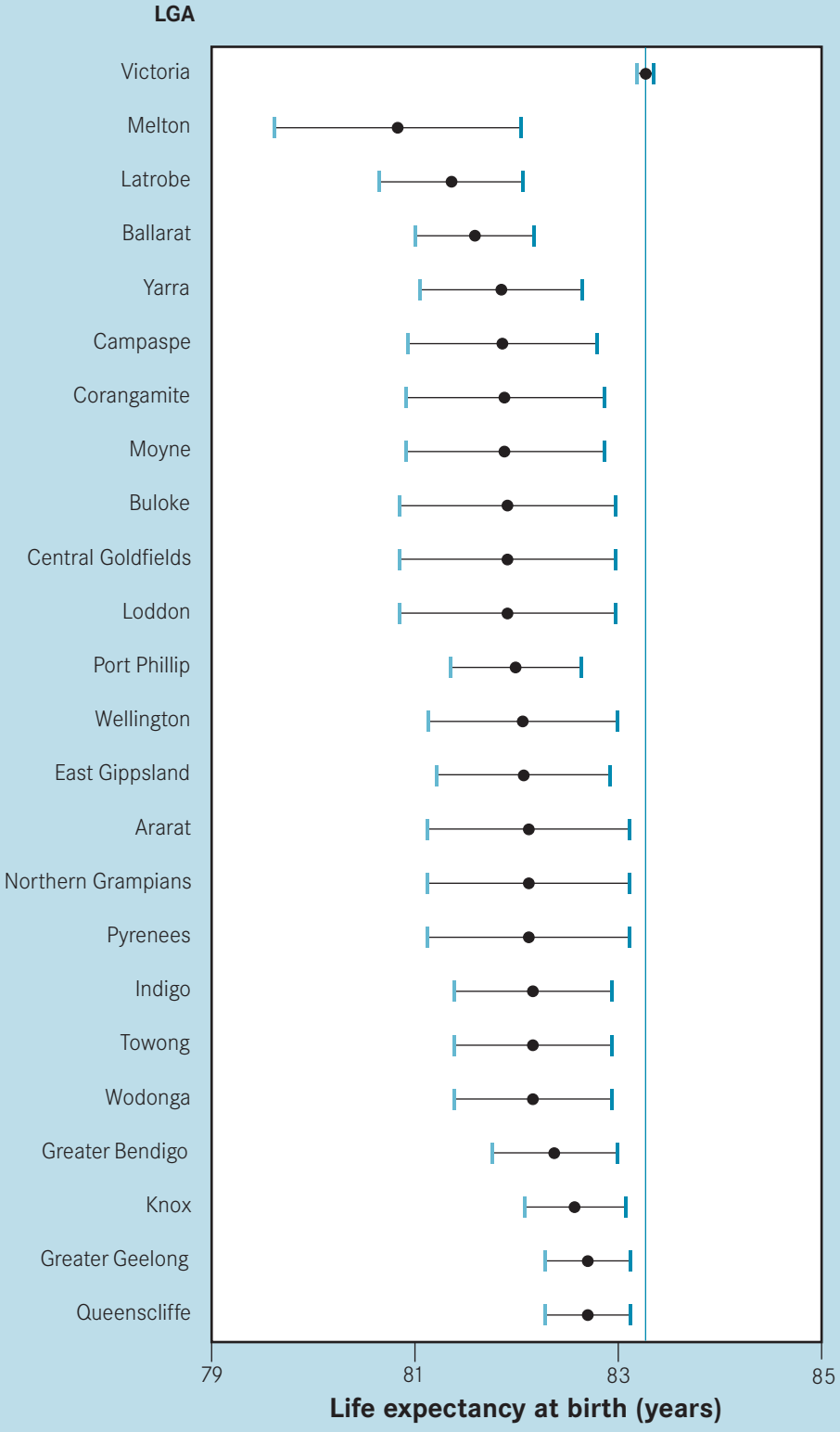
Life expectancy at birth by local government area, males, Victoria, 1999–2003



Note: Life expectancy at birth for males during this period was 78.1 years.

Female life expectancy at birth by local government area

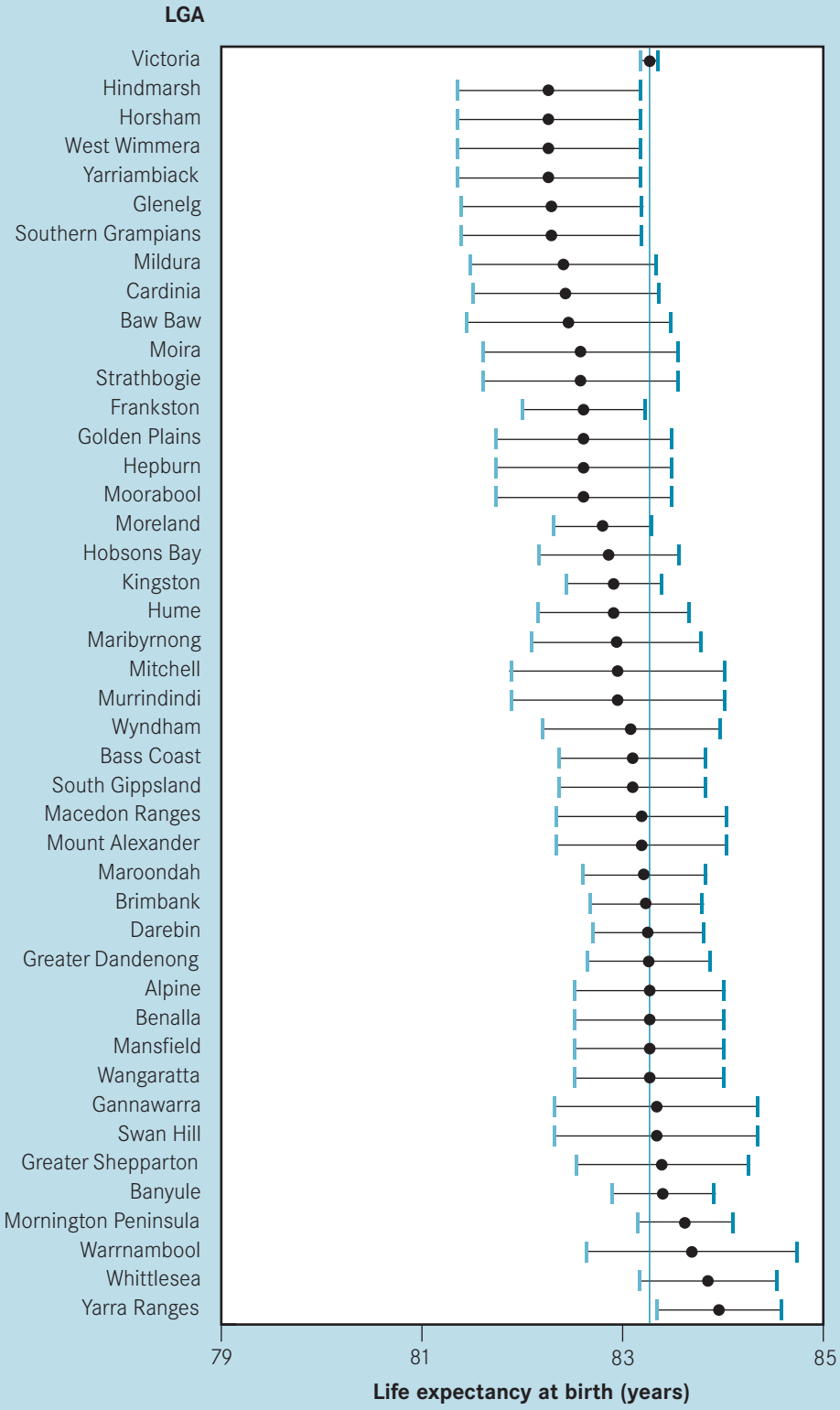
Life expectancy at birth (below Victorian average) for females, by local government area (LGA), Victoria, 1999–2003



Source: Australian Bureau of Statistics, Mortality data; Census of population and housing, 1996 and 2001.

Female life expectancy at birth by local government area

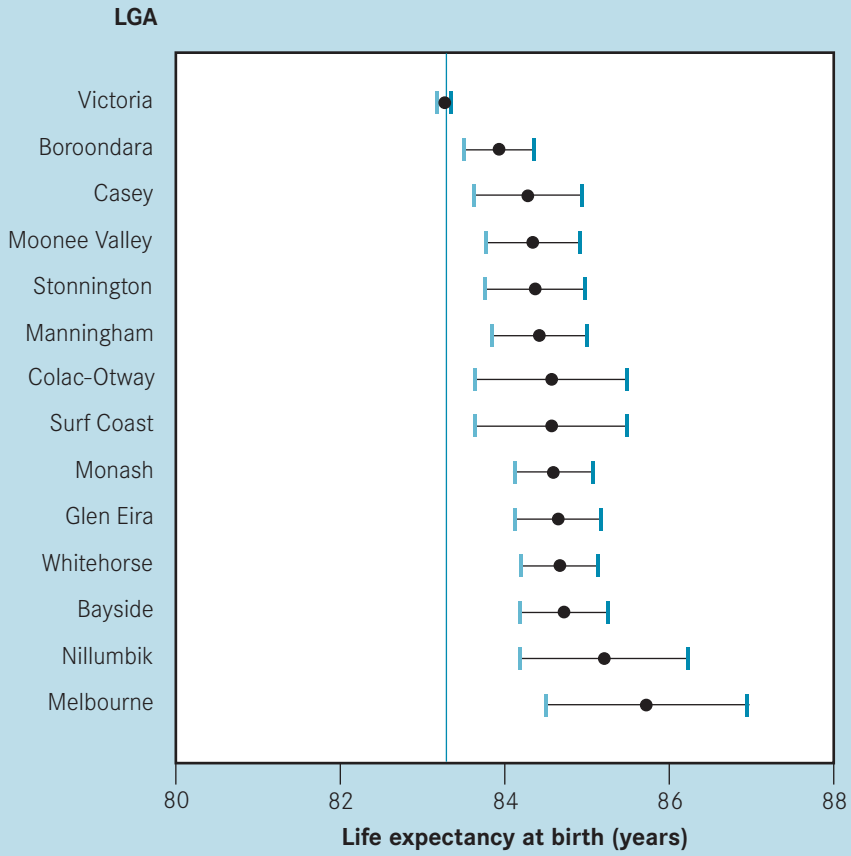
Life expectancy at birth (equal to Victorian average) for females, by local government area (LGA), Victoria, 1999–2003



Source: Australian Bureau of Statistics, Mortality data; Census of population and housing, 1996 and 2001.

Female life expectancy at birth by local government area

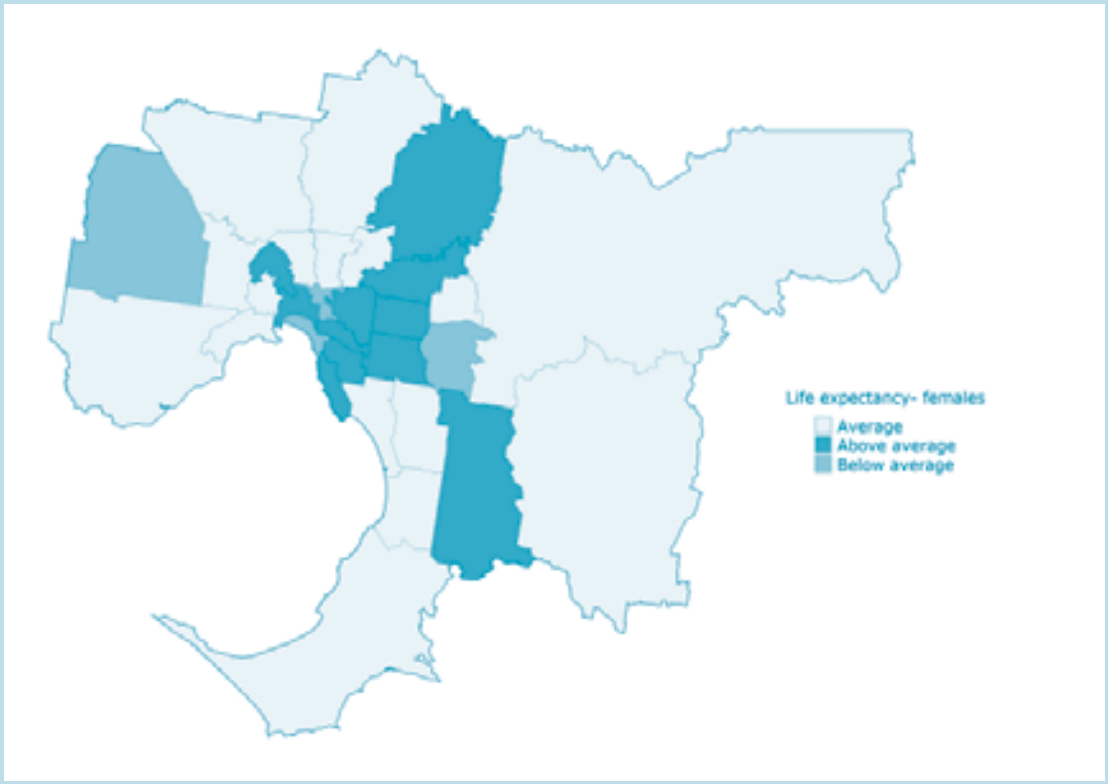
Life expectancy at birth (above Victorian average) for females, by local government area (LGA), Victoria, 1999–2003



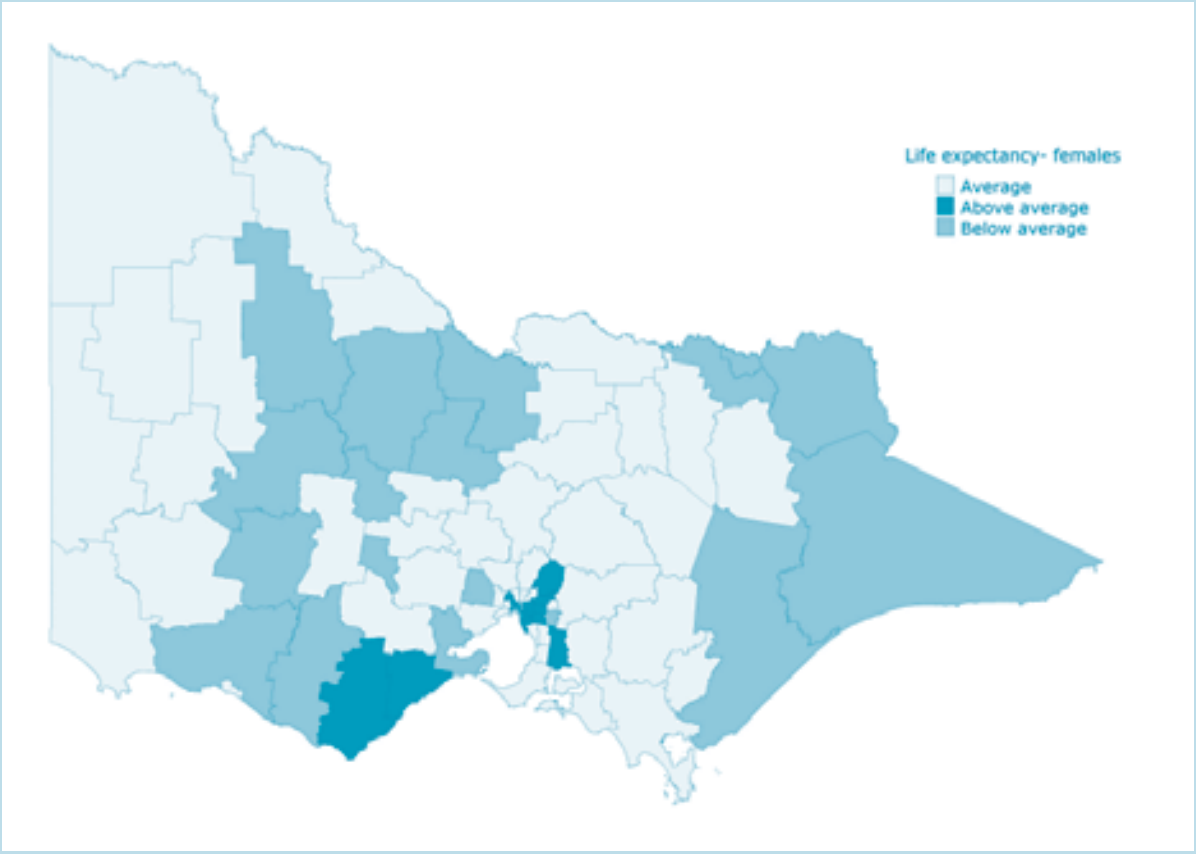
Source: Australian Bureau of Statistics, Mortality data; Census of population and housing, 1996 and 2001.

Female life expectancy at birth by local government area

Life expectancy at birth by local government area, females, metropolitan Melbourne, 1999–2003



Life expectancy at birth by local government area, females, Victoria, 1999–2003



Note: Life expectancy at birth for females during this period was 83.3 years.

Avoidable mortality

In this chapter

Summary

- Based on mortality and population data for 1979–2001, mortality rates have declined for all categories of avoidable mortality. Primary avoidable mortality rates have shown a greater decline compared with secondary and tertiary avoidable mortality, highlighting the potential benefits of primary intervention.
- There were 152,629 avoidable deaths (AD) among males and 84,570 among females during the period 1979–2001. The top ten causes of AD, together with deaths classified as being unavoidable, accounted for 87 per cent of all deaths in persons aged less than 75 years.
- Ischaemic heart disease was the leading cause of avoidable deaths among males and females during the study period, followed by lung and breast cancers in males and females, respectively.

Introduction

Use of the term 'avoidable mortality' (AM) as an indicator of the quality of medical care, stems from work initiated in the United States of America by Rutstein et al in the mid 1970s (Rutstein et al., 1976). Avoidable mortality is a simple and practical population-based method of counting untimely and unnecessary deaths from diseases for which effective public health and medical interventions are available. An excess of deaths due to preventable causes should suggest shortcomings in the healthcare system that warrant further investigation.

Mortality has been further subdivided into three categories (Tobias and Jackson, 2001):

- **primary avoidable mortality** – conditions that are preventable, whether through changing individual behaviours (lifestyle modification) or population level intervention (healthy public policy). The condition is preventable by addressing its risk or protective factors. Primary prevention, for example, relates to deaths due to immunisation-preventable diseases, burns, HIV/AIDS infection, Sudden Infant Death Syndrome, lung cancer and drowning.
- **secondary avoidable mortality** – conditions that respond to early detection and intervention, typically in a primary care setting. Together with clinical preventive services such as cancer screening, it includes chronic disease management of high blood pressure; epilepsy; diabetes; cancer screening; newborn screening for congenital conditions such as PKU; and hypothyroidism, constituting 'secondary prevention'.
- **tertiary avoidable mortality** – those conditions whose case fatality rate can be significantly reduced by existing medical or surgical treatments (typically, but not necessarily, in a hospital setting), even when the disease process is fully developed. This constitutes 'tertiary prevention', and conditions such as Hodgkin's disease; appendicitis; intestinal obstruction; and hernia are included in this category.

References

Rutstein, DD. et al., 1976, 'Measuring the quality of medical care: A clinical method', in *The New England Journal of Medicine*, Volume 294, no 11, pp. 582–8.

Tobias, M. and Jackson, G., 2001, 'Avoidable mortality in New Zealand, 1981–97', in *Australian and New Zealand Journal of Public Health*, Volume 25, no 1, pp. 12–20.

Report of the Chief Health Officer (New South Wales), 2002, *The health of the people of New South Wales,* Public Health Division, New South Wales Government.

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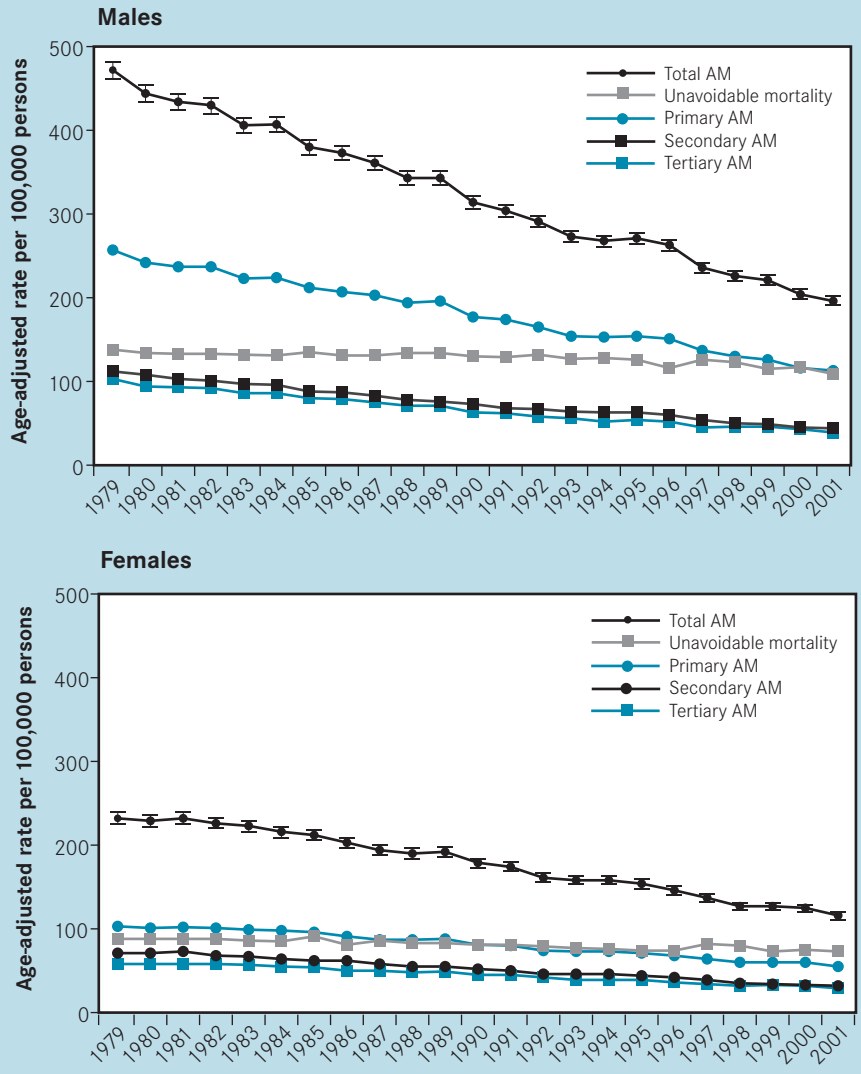
Avoidable and unavoidable mortality rates

Avoidable and unavoidable mortality rates by sex, Victoria, 1979–2001



The analysis is based on mortality and population data for 1979–2001 supplied by the Australian Bureau of Statistics (ABS) for Victoria. ICD-9 coding was used between 1979 and 1996 and ICD-10 between 1997 and 2001. Age standardisation was carried out using the direct method, with Australia's 1991 population as the reference.

The concept of 'avoidability' as used by Tobias and Jackson (2001), with the arbitrary upper age limit of less than 75 years, was used for this analysis. The appropriate groupings of ICD-10 codes, developed by the New South Wales Department of Health (2002) and based on the ICD-9 codes suggested by Tobias and Jackson (2001), were employed. All other causes of mortality less than 75 years were assumed to be 'unavoidable' for the purposes of this analysis.

Mortality rates have declined for all categories of avoidable mortality. Primary avoidable mortality rates have shown a greater decline compared with secondary and tertiary avoidable mortality, highlighting the potential benefits of primary intervention.

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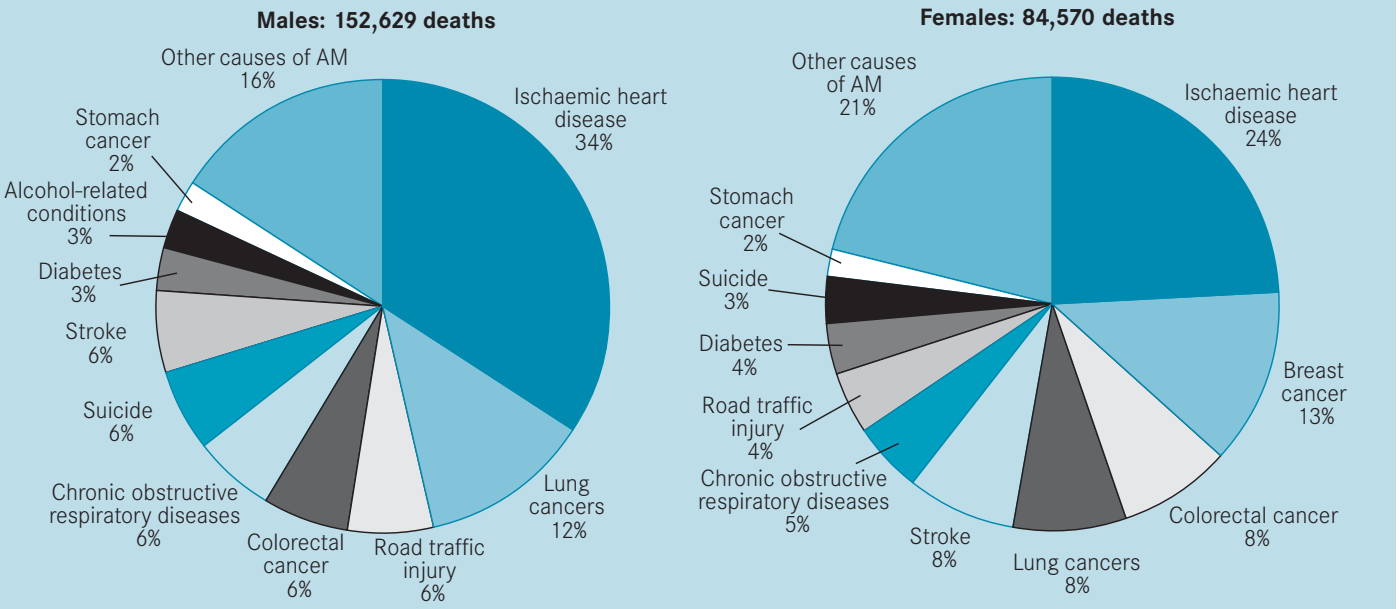
Top ten causes of avoidable mortality

Top ten causes of avoidable deaths by sex, Victoria, 1979–2001



There were 152,629 avoidable deaths (AD) among males and 84,570 among females during the period 1979–2001. The top ten causes of AD, together with deaths classified as being unavoidable, accounted for 87 per cent of all deaths for persons less than 75 years of age.

Ischaemic heart disease was the leading cause of avoidable deaths among males and females during the study period, followed by lung and breast cancers in males and females respectively.

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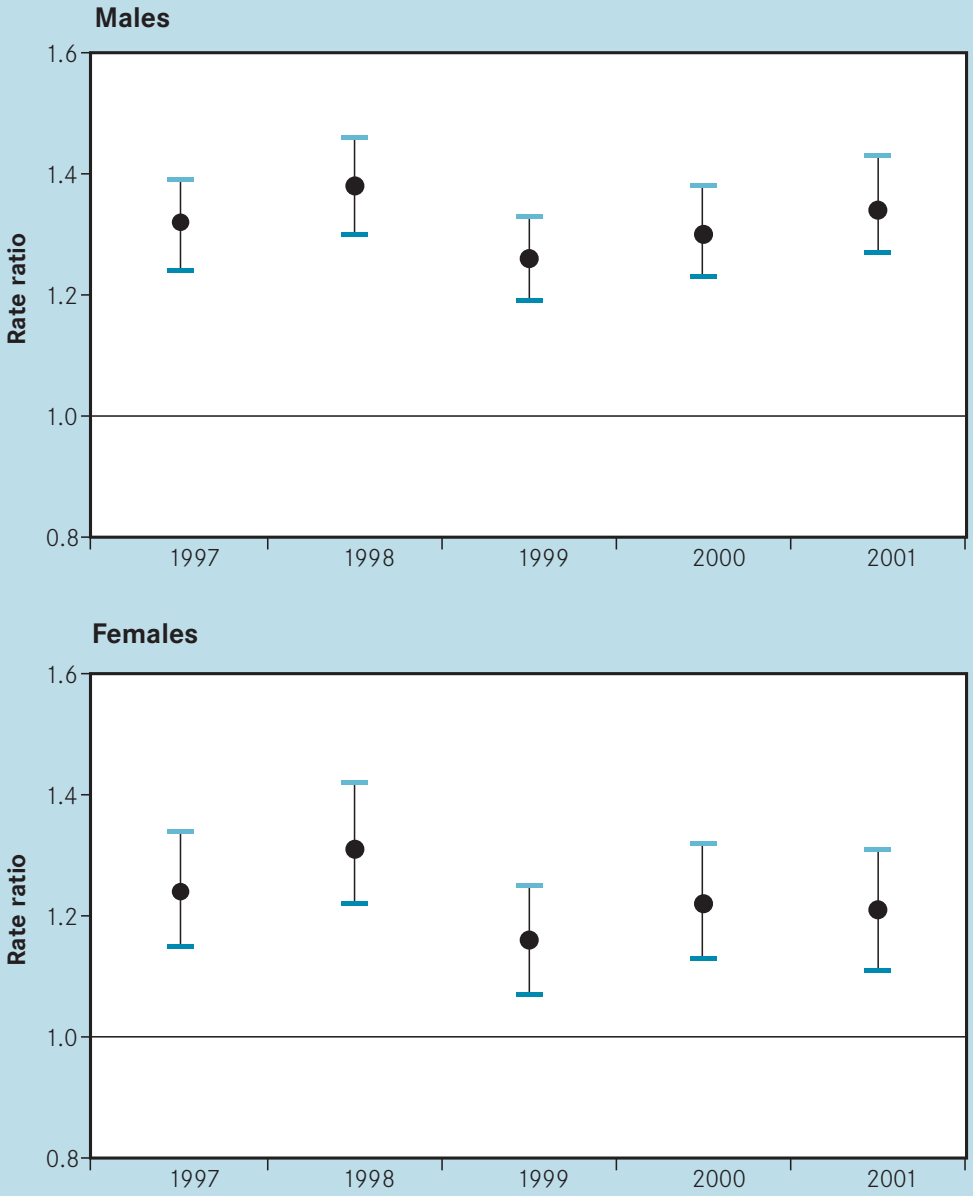
Avoidable mortality: metropolitan–rural comparison

Avoidable mortality rate by sex, metropolitan–rural comparison (Metro=1), 1997–2001



Mortality rates for 1997–2001 in Victorian local government areas, computed from mortality and population data supplied by the ABS for Victoria, were directly standardised to Victoria's 2001 population.

For both males and females, the AM rate ratios remained higher in rural areas compared with metropolitan areas between 1997 and 2001.

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Ambulatory care sensitive conditions

In this chapter

Summary

- There were 174,821 hospital admissions for ambulatory care sensitive conditions (ACSCs) in 2003–04, with an average of 5.02 bed days. The rate of ACSCs admissions varied from 20.52 per 1,000 persons in 1993–94 to 33.31 per 1,000 persons in 2003–04.
- The admission rate for ACSCs in rural areas increased from 27.06 per 1,000 persons in 1993–94 to 38.00 per 1,000 persons in 2003–04. During the same 11-year period, the admission rate for ACSCs in metropolitan areas increased from 17.81 per 1,000 persons to 31.42 per 1,000 persons.

Introduction

Ambulatory care sensitive conditions (ACSCs) are those for which hospitalisation is thought to be avoidable if preventative care and early disease management are applied, usually in the ambulatory setting. In theory, timely and effective ambulatory care can reduce the risks of hospitalisation by preventing the onset of an illness or condition; controlling an acute episodic illness or condition; or managing a chronic disease or condition. The concept of preventable or avoidable hospitalisation has been developed as an indicator of health outcomes for evaluating the adequacy of primary care. ACSCs admission rates have also been proposed as a measure of access to health care.

Better access to primary health care increases the use of ambulatory care, prevents unnecessary hospitalisations and improves the health status of the population. Analyses from the Victorian ambulatory care sensitive conditions study identified significant differentials and inequalities in access to the primary health care system in Victoria. They provided an evidence-based platform for policies that aim to reduce demand on hospital services by offering opportunities for targeted interventions at the Primary Care Partnerships (PCP) level.

For more information

Department of Human Services (Rural and Regional Health and Aged Care Services Division), 2002, *The Victorian ambulatory care sensitive conditions study: opportunities for targeting public health and health services interventions,* Melbourne, www.health.vic.gov.au/healthstatus/acsc/targetinterventions.htm

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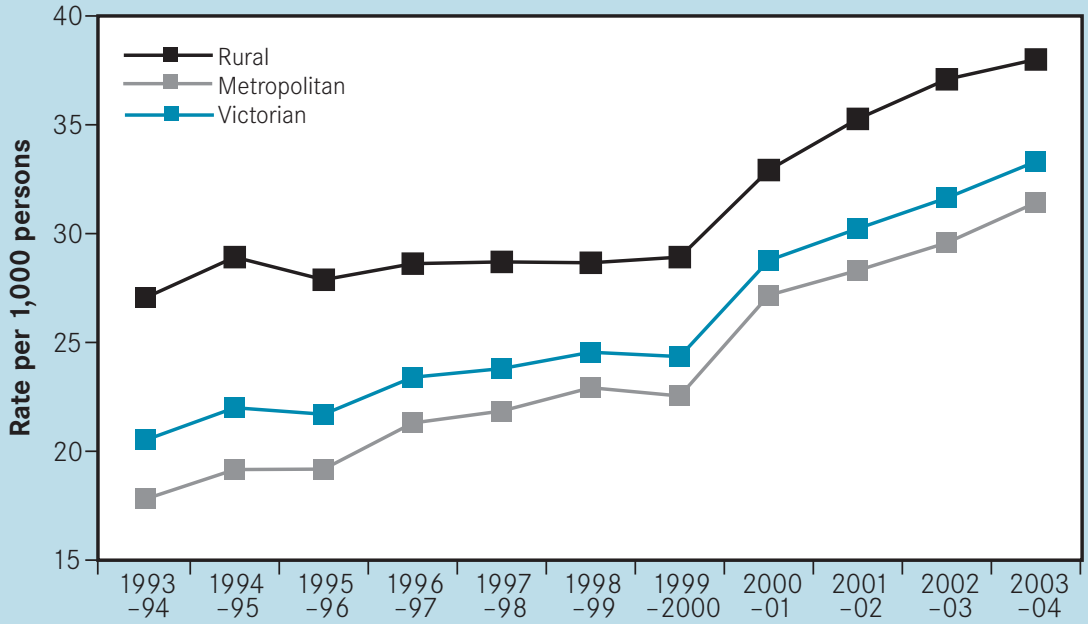
Total ACSCs admission rates in Victoria

Total ACSCs admission rates for rural and metropolitan Victoria, 1993–94 to 2003–04



	1993 –94	1994 –95	1995 –96	1996 –97	1997 –98	1998 –99	1999 –2000	2000 –01	2001 –02	2002 –03	2003 –04
Rate per 1,000 persons											
Rural	27.06	28.92	27.88	28.62	28.70	28.66	28.92	32.92	35.27	37.09	38.00
Metro	17.81	19.16	19.18	21.30	21.85	22.92	22.54	27.17	28.31	29.58	31.42
Victoria	20.52	22.00	21.70	23.40	23.80	24.55	24.35	28.77	30.23	31.64	33.31
ACSCs admissions											
Rural	36,316	38,775	37,311	38,450	38,549	39,545	40,350	47,094	51,304	54,888	59,278
Metro	57,263	61,583	61,646	68,299	70,065	75,900	75,849	92,843	98,522	104,873	115,543
Victoria	93,579	100,358	98,957	106,749	108,614	115,445	116,199	139,937	149,826	159,761	174,821

Note: ACSCs were classified using ICD–9 for 1993–94 to 1997–98. ICD–10 was used for 1998–99 to 2003–04.
ACSC admission rates were age and sex standardised using the Victorian population as at June 1996.
Source: Department of Human Services, Victorian Admitted Episodes Dataset;
Australian Bureau of Statistics Census of population and housing, 1996.

Key findings

- There were 174,821 admissions for ACSCs in 2003–04, with an average of 5.02 bed days.
- The rate of ACSCs admissions varied from 20.52 per 1,000 persons (20.39–20.65) in 1993–94 to 33.31 per 1,000 persons (33.16–33.47) in 2003–04.
- The admission rate for ACSCs in rural areas increased from 27.06 per 1,000 persons (26.78–27.34) in 1993–94 to 38.00 per 1,000 persons (37.70–38.31) in 2003–04. During the same 11-year period, the admission rate for ACSCs in metropolitan areas increased from 17.81 per 1,000 persons (17.67–17.96) to 31.42 per 1,000 persons (31.24–31.60).
- The analyses of ACSC indicators have identified gaps in the delivery of primary health care services in rural and regional Victoria. Accordingly, the differentials in admission rates for these indicators offer opportunities for targeting public health and health services interventions that can decrease access barriers, improve adequacy of primary care and reduce demand on the hospital system in Victoria.

For more information

Department of Human Services (Rural and Regional Health and Aged Care Services Division), 2002, *The Victorian ambulatory care sensitive conditions study: opportunities for targeting public health and health services interventions,* Melbourne, www.health.vic.gov.au/healthstatus/acsc/targetinterventions.htm

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ACSCs admissions in Victoria

Top ten ACSC admissions in Victoria, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	55,803	10.36	10.27	10.44	6.93	386,712
Dental conditions	13,147	2.72	2.67	2.76	1.14	15,039
Chronic obstructive pulmonary disease (COPD)	13,786	2.51	2.47	2.55	7.17	98,884
Dehydration and gastroenteritis	12,660	2.45	2.41	2.50	2.57	32,488
Congestive cardiac failure	11,805	2.06	2.03	2.10	7.51	88,710
Angina	11,214	2.04	2.01	2.08	2.44	27,357
Pyelonephritis	10,025	1.91	1.87	1.95	4.68	46,898
Asthma	9,041	1.89	1.86	1.93	2.28	20,614
Convulsions and epilepsy	7,318	1.50	1.46	1.53	2.92	21,375
Cellulitis	7,538	1.45	1.41	1.48	5.60	42,202

Note: CI = confidence interval.

Source: Department of Human Services, Victorian Admitted Episodes Dataset (public and private), 2003–04.

Key findings

- ACSC admissions in Victoria totalled 174,821 in 2003–04.
- The top ten ACSC admissions accounted for 87.14 per cent of the total ACSC admissions for Victoria.
- Average bed days for the top ten ACSC admissions were 5.12.
- Chronic ACSCs, dental conditions and dehydration and gastroenteritis were the leading causes of the top five ACSC admissions.
- The highest number (55,803) of admissions was for diabetes complications, accounting for 36.63 per cent of the top ten ACSC admissions.

For more information

Department of Human Services (Rural and Regional Health and Aged Care Services Division), 2002, *The Victorian ambulatory care sensitive conditions study: opportunities for targeting public health and health services interventions,* Melbourne, www.health.vic.gov.au/healthstatus/acsc/targetinterventions.htm

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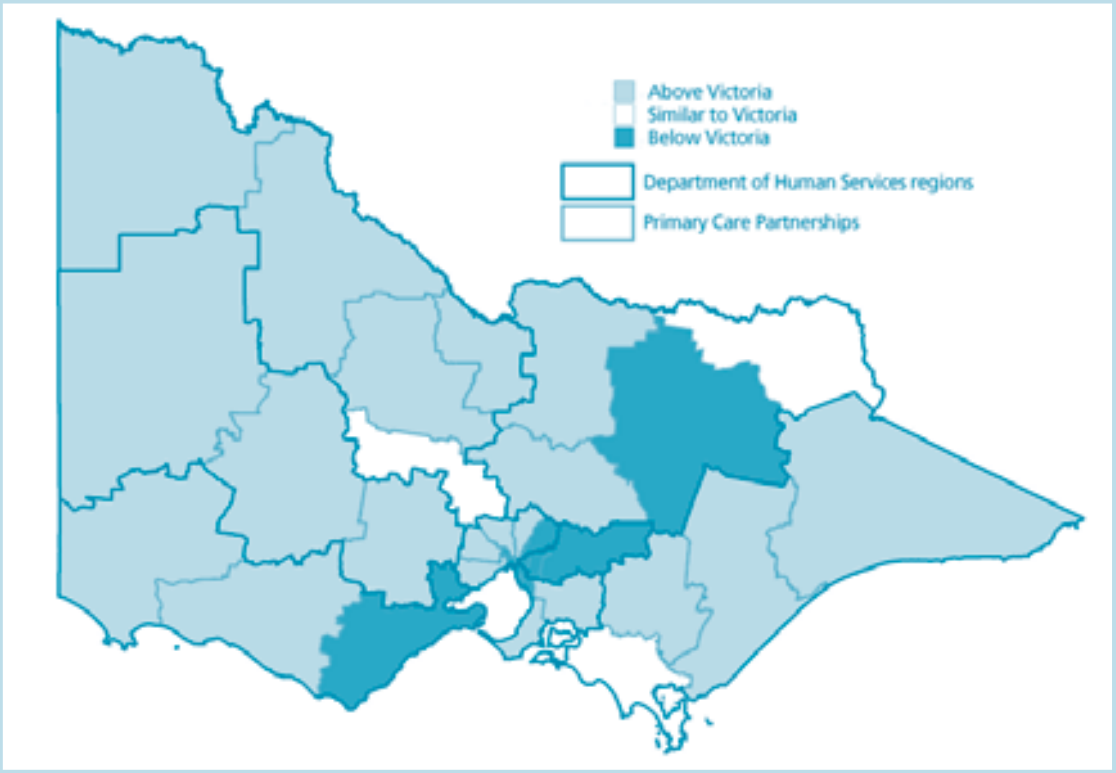
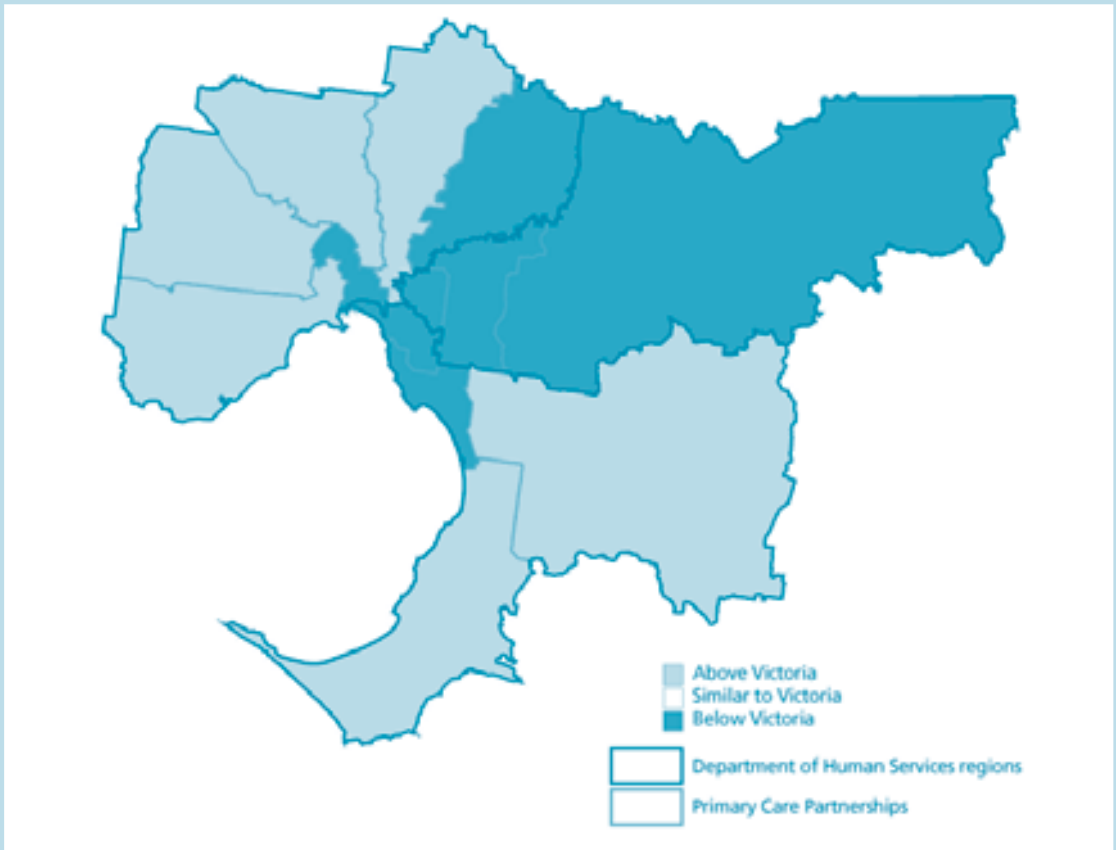
Total ACSCs admissions by Primary Care Partnership

Total ACSCs admissions rate ratios, Victoria, (Victoria=1), 2003–04

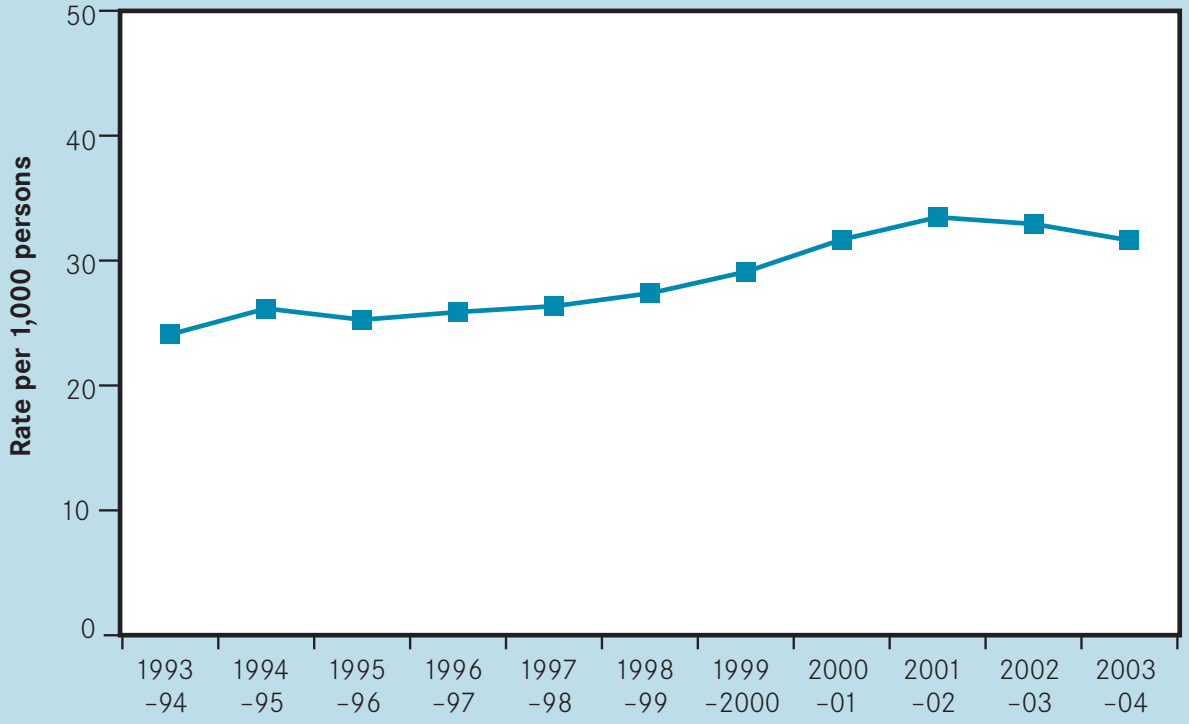


Total ACSCs admissions rate ratios, metropolitan Melbourne, (Victoria=1), 2003–04



Barwon–South Western Region

ACSCs admission rates, Barwon–South Western Region, 1993–94 to 2003–04



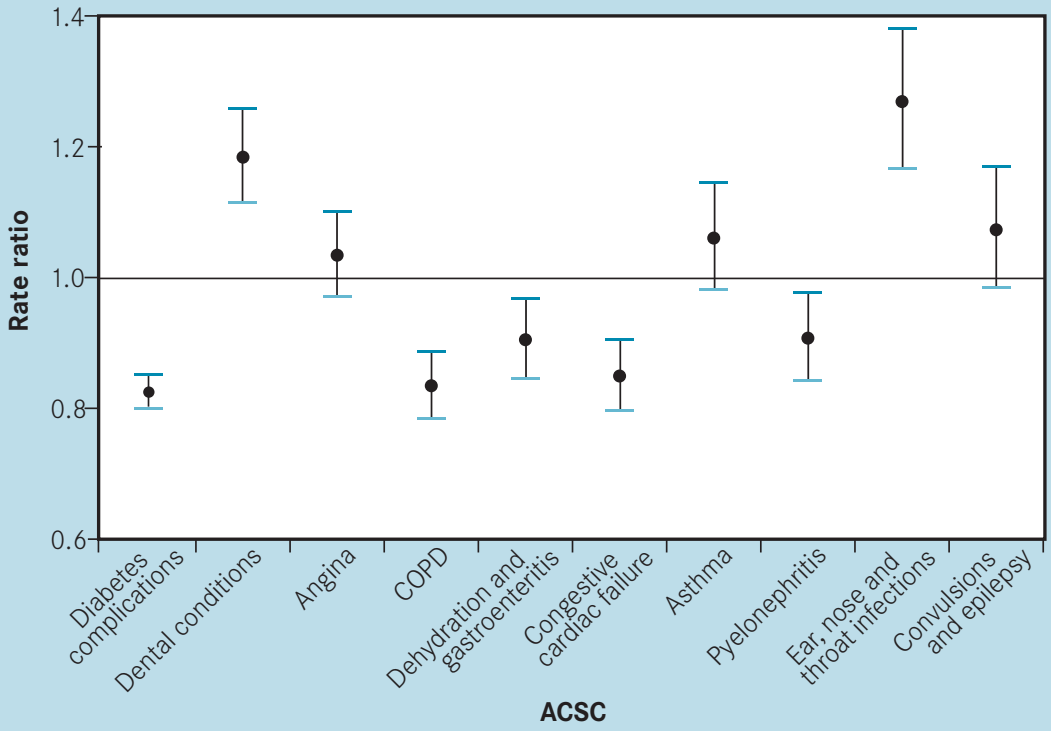
Top ten ACSC admissions, Barwon-South Western Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	4,140	9.33	9.05	9.62	6.76	27,969
Dental conditions	1,128	3.16	2.98	3.34	1.21	1,370
Angina	1,085	2.35	2.21	2.49	2.90	3,148
COPD	1,103	2.33	2.20	2.47	7.86	8,675
Dehydration and gastroenteritis	910	2.32	2.18	2.48	2.70	2,460
Congestive cardiac failure	1,033	2.03	1.91	2.16	8.14	8,405
Asthma	693	1.94	1.80	2.09	2.65	1,835
Pyelonephritis	763	1.84	1.72	1.98	4.94	3,771
Ear, nose and throat infections	587	1.73	1.59	1.87	1.93	1,134
Convulsions and epilepsy	563	1.59	1.47	1.73	2.58	1,450

Note: CI = confidence interval.

Barwon–South Western Region

Top ten ACSCs admission rate ratios, Barwon–South Western Region, (Victoria=1), 2003–04



Key findings

- There were 13,699 admissions for total ACSCs in 2003–04, with an average of 5.1 bed days.
- The admission rates for total ACSCs increased from 24.10 per 1,000 persons (23.57–24.62) in 1993–1994 to 31.62 per 1,000 persons (31.09–32.15) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 87.63 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs were 5.02 in 2003–04.
- The admission rate ratios for dental conditions and ear, nose and throat infections were significantly higher than the Victorian averages in 2003–04.
- Ear, nose and throat infections accounted for the highest admission rate ratio, 1.27 (1.17–1.38), in 2003–04.

For more information

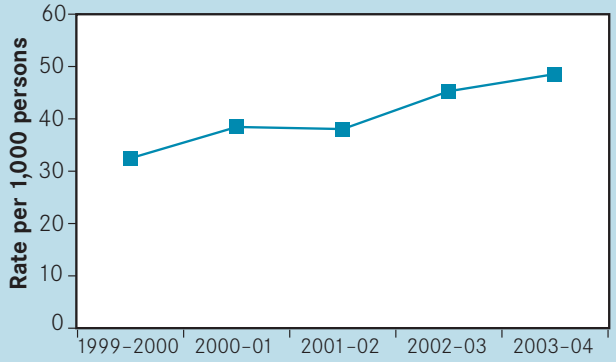
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

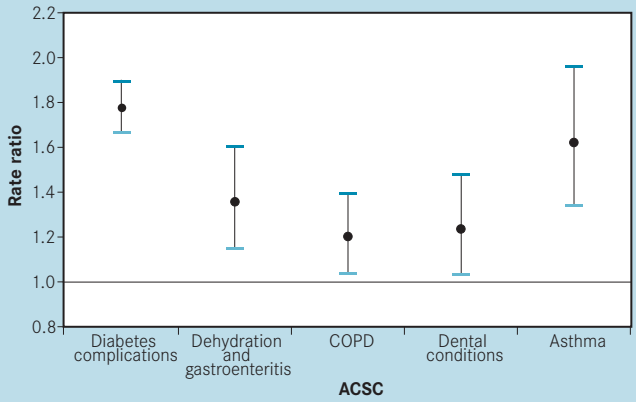
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Southern Grampians/Glenelg Primary Care Partnership

ACSCs admission rates, Southern Grampians/Glenelg PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Southern Grampians/Glenelg PCP (Victoria=1), 2003–04



Top five ACSCs, Southern Grampians/Glenelg PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	939	20.09	18.84	21.41	4.91	4,613
Dehydration and gastroenteritis	139	3.48	2.95	4.11	2.28	317
COPD	175	3.36	2.90	3.90	8.81	1,542
Dental conditions	120	3.29	2.75	3.94	1.18	141
Asthma	108	2.97	2.46	3.59	2.81	304

Note: CI = confidence interval.

Key findings

- There were 2,208 admissions for total ACSCs in 2003–04, with an average of 4.81 bed days.
- The admission rates for total ACSCs increased from 32.48 per 1,000 persons (30.80–34.25) in 1999–2000 to 48.56 per 1,000 persons (46.55–50.65) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs were significantly higher than the Victorian average in 2003–04.

For more information

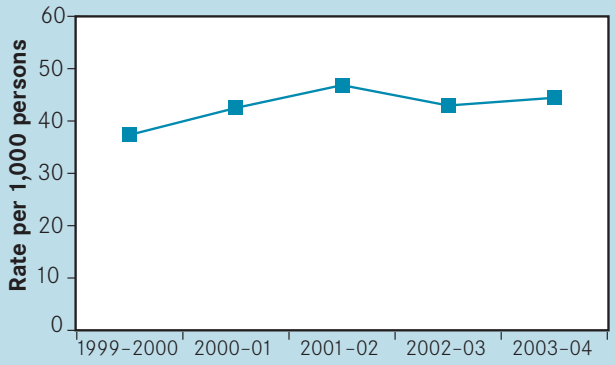
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

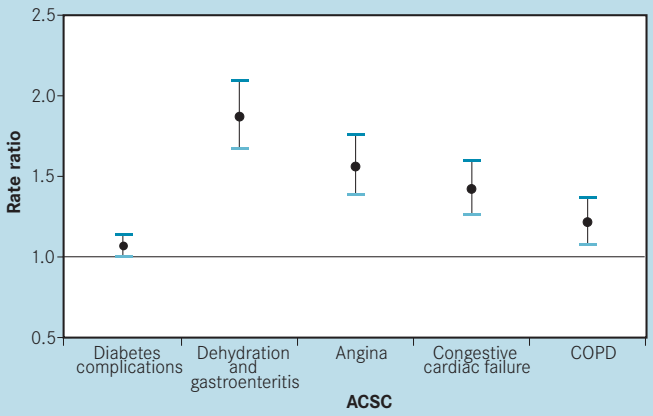
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

South West Primary Care Partnership

ACSCs admission rates, South West PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, South West PCP (Victoria=1), 2003–04



Top five ACSCs, South West PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	902	12.08	11.32	12.90	6.22	5,612
Dehydration and gastroenteritis	314	4.80	4.30	5.36	2.59	813
Angina	273	3.55	3.15	4.00	3.40	927
Congestive cardiac failure	288	3.40	3.03	3.82	9.02	2,598
COPD	271	3.40	3.02	3.83	7.93	2,149

Note: CI = confidence interval.

Key findings

- There were 3,281 admissions for total ACSCs in 2003–04, with an average of 5.00 bed days.
- The admission rates for total ACSCs increased from 37.36 per 1,000 persons (35.92–38.86) in 1999–2000 to 44.44 per 1,000 persons (42.92–46.01) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs (except diabetes complications) were significantly higher than the Victorian average in 2003–04.

For more information

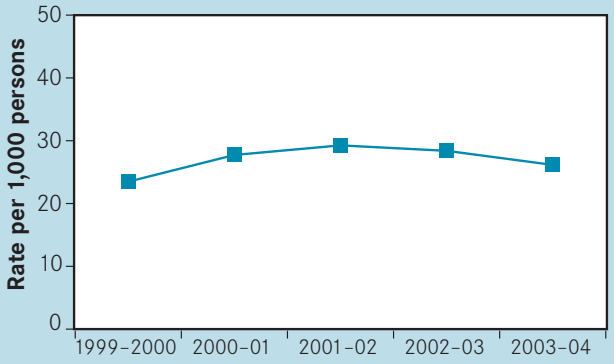
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

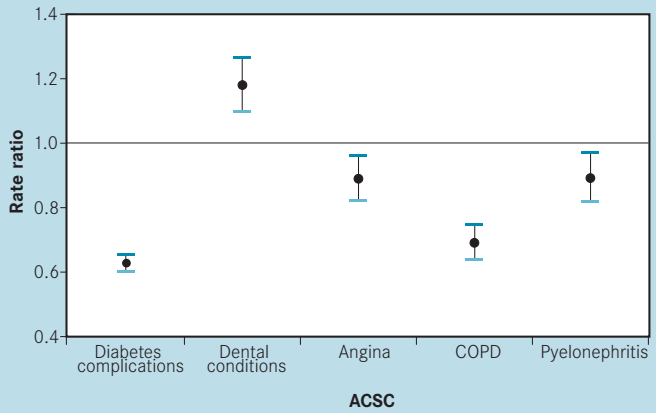
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Barwon Primary Care Partnership

ACSCs admission rates, Barwon PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Barwon PCP (Victoria=1), 2003–04



Top five ACSCs, Barwon PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,299	7.10	6.82	7.40	7.72	17,744
Dental conditions	815	3.15	2.94	3.37	1.20	981
Angina	679	2.02	1.88	2.18	2.59	1,762
COPD	657	1.93	1.79	2.08	7.59	4,984
Pyelonephritis	541	1.81	1.67	1.97	4.58	2,477

Note: CI = confidence interval.

Key findings

- There were 8,210 admissions for total ACSCs in 2003–04, with an average of 5.18 bed days.
- The admission rates for total ACSCs increased from 23.48 per 1,000 persons (22.89–24.09) in 1999–2000 to 26.10 per 1,000 persons (25.58–26.73) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The admission rate ratios for dental conditions were significantly higher than the Victorian average in 2003–04.

For more information

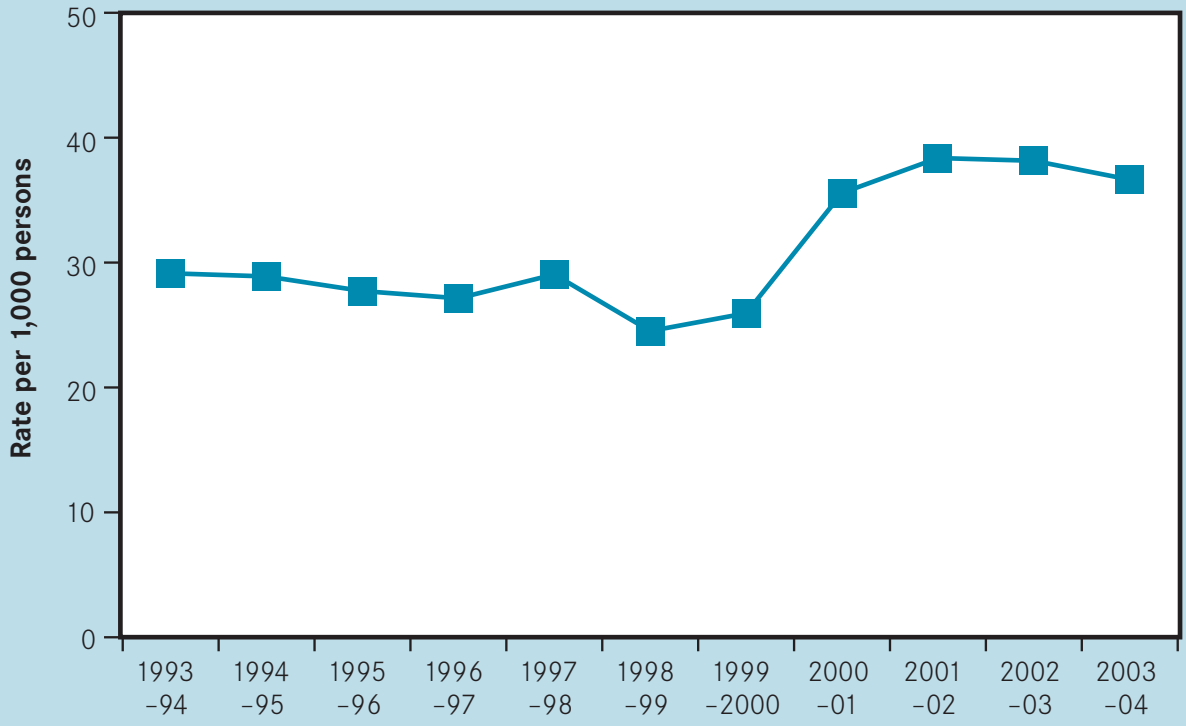
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Grampians Region

ACSCs admission rates, Grampians Region, 1993–94 to 2003–04



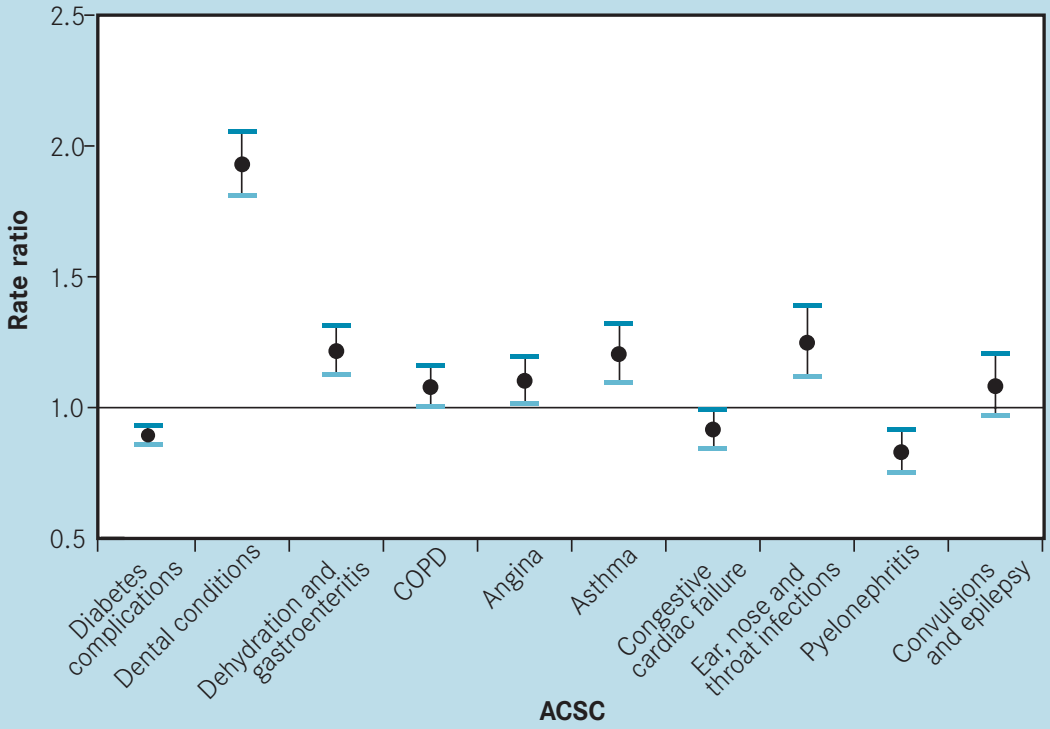
Top ten ACSCs, Grampians Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,483	10.11	9.72	10.51	6.29	15,622
Dental conditions	1,046	5.14	4.84	5.46	1.07	1,119
Dehydration and gastroenteritis	695	3.12	2.90	3.36	2.97	2,063
COPD	779	3.01	2.81	3.23	8.25	6,424
Angina	631	2.51	2.32	2.71	2.77	1,748
Asthma	460	2.21	2.01	2.42	2.58	1,188
Congestive cardiac failure	606	2.19	2.02	2.37	9.31	5,643
Ear, nose and throat infections	339	1.70	1.53	1.89	2.13	723
Pyelonephritis	411	1.69	1.53	1.86	6.08	2,498
Convulsions and epilepsy	333	1.60	1.44	1.79	3.24	1,080

Note: CI = confidence interval.

Grampians Region

Top ten ACSCs admission rate ratios, Grampians Region (Victoria=1), 2003–04



Key findings

- There were 8,853 admissions for total ACSCs in 2003–04, with an average of 4.99 bed days.
- The admission rates for total ACSCs increased from 29.10 per 1,000 persons (28.41–29.87) in 1993–94 to 36.60 per 1,000 persons (35.89–37.41) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 87.91 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs were 4.90 in 2003–04.
- The admission rate ratios for dental conditions, dehydration and gastroenteritis, angina, asthma, and ear, nose and throat infections were significantly higher than the Victorian averages in 2003–04.
- Dental conditions accounted for the highest admission rate ratio, 1.93 (1.81–2.06), in 2003–04.

For more information

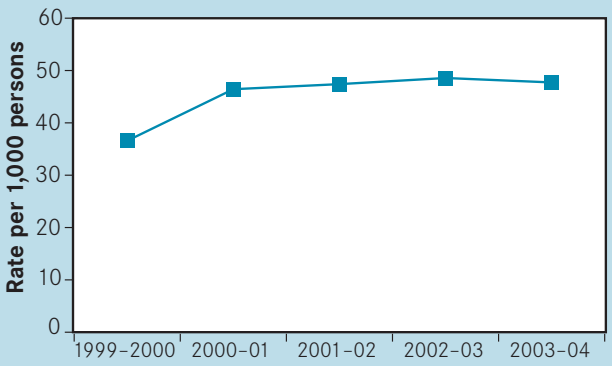
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

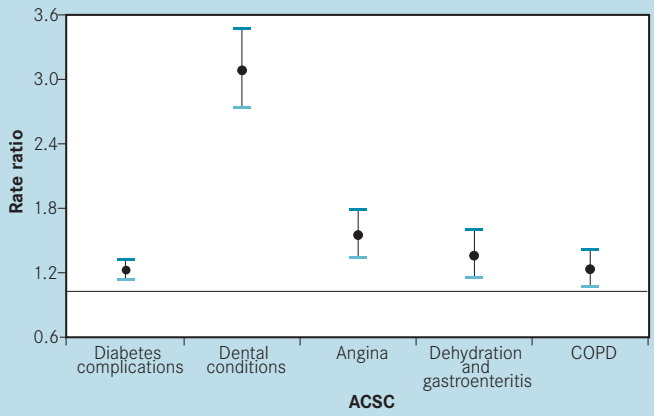
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Wimmera Primary Care Partnership

ACSCs admission rates, Wimmera PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Wimmera PCP, (Victoria=1), 2003–04



Top five ACSCs, Wimmera PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	702	13.85	12.86	14.92	5.64	3,962
Dental conditions	281	8.22	7.31	9.24	1.02	288
Angina	191	3.52	3.06	4.06	2.73	522
Dehydration and gastroenteritis	144	3.49	2.96	4.11	2.99	430
COPD	199	3.45	3.00	3.96	9.40	1,870

Note: CI = confidence interval.

Key findings

- There were 2,301 admissions for total ACSCs in 2003–04, with an average of 5.01 bed days.
- The admission rates for total ACSCs increased from 36.58 per 1,000 persons (34.88–38.37) in 1999–2000 to 47.72 per 1,000 persons (45.78–49.75) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs admissions were significantly higher than the Victorian average in 2003–04.

For more information

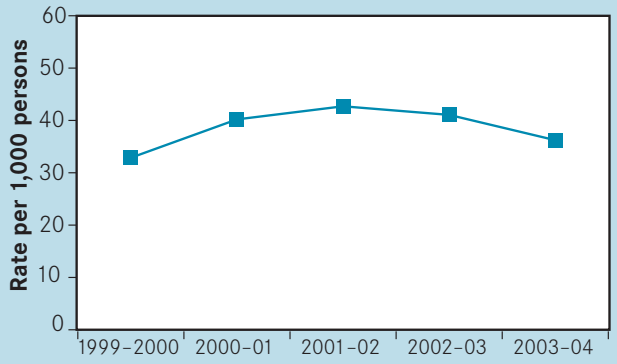
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

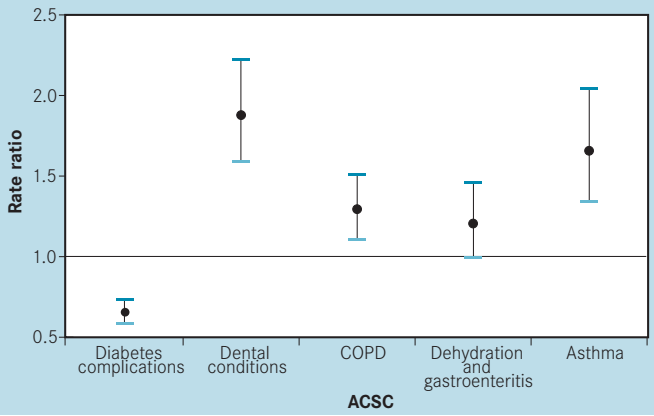
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Grampians/Pyrenees Primary Care Partnership

ACSCs admission rates, Grampians/Pyrenees PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Grampians /Pyrenees PCP (Victoria=1), 2003–04



Top five ACSCs, Grampians/Pyrenees PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	302	7.41	6.62	8.29	7.78	2,350
Dental conditions	138	5.00	4.24	5.91	1.02	141
COPD	161	3.62	3.10	4.22	6.80	1,094
Dehydration and gastroenteritis	105	3.09	2.55	3.75	3.09	324
Asthma	88	3.04	2.46	3.74	2.98	262

Note: CI = confidence interval.

Key findings

- There were 1,380 admissions for total ACSCs in 2003–04, with an average of 5.13 bed days.
- The admission rates for total ACSCs increased from 32.87 per 1,000 persons (31.05–34.81) in 1999–2000 to 36.20 per 1,000 persons (34.34–38.22) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for dental conditions, chronic obstructive pulmonary disease and asthma were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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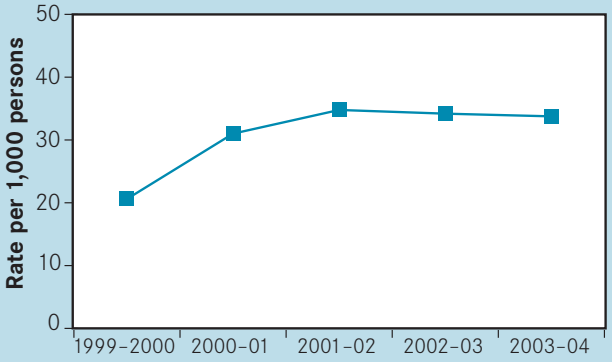
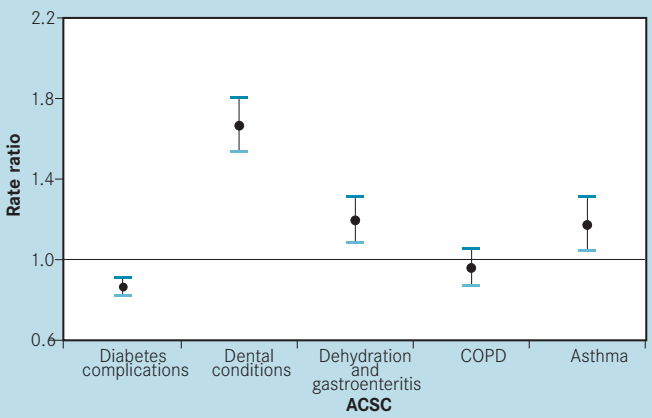
Central Highlands Primary Care Partnership

ACSCs admission rates, Central Highlands PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Central Highlands PCP (Victoria=1), 2003–04



Top five ACSCs, Central Highlands PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,479	9.78	9.29	10.29	6.29	9,310
Dental conditions	627	4.44	4.10	4.80	1.10	690
Dehydration and gastroenteritis	446	3.07	2.79	3.36	2.93	1,309
COPD	419	2.68	2.43	2.95	8.26	3,460
Asthma	304	2.15	1.92	2.40	2.39	728

Note: CI = confidence interval.

Key findings

- There were 5,172 admissions for total ACSCs in 2003–04, with an average of 4.94 bed days.
- The admission rates for total ACSCs increased from 20.61 per 1,000 persons (19.85–21.39) in 1999–2000 to 33.76 per 1,000 persons (32.84–34.71) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for dental conditions, dehydration and gastroenteritis, and asthma were significantly higher than the Victorian average in 2003–04.

For more information

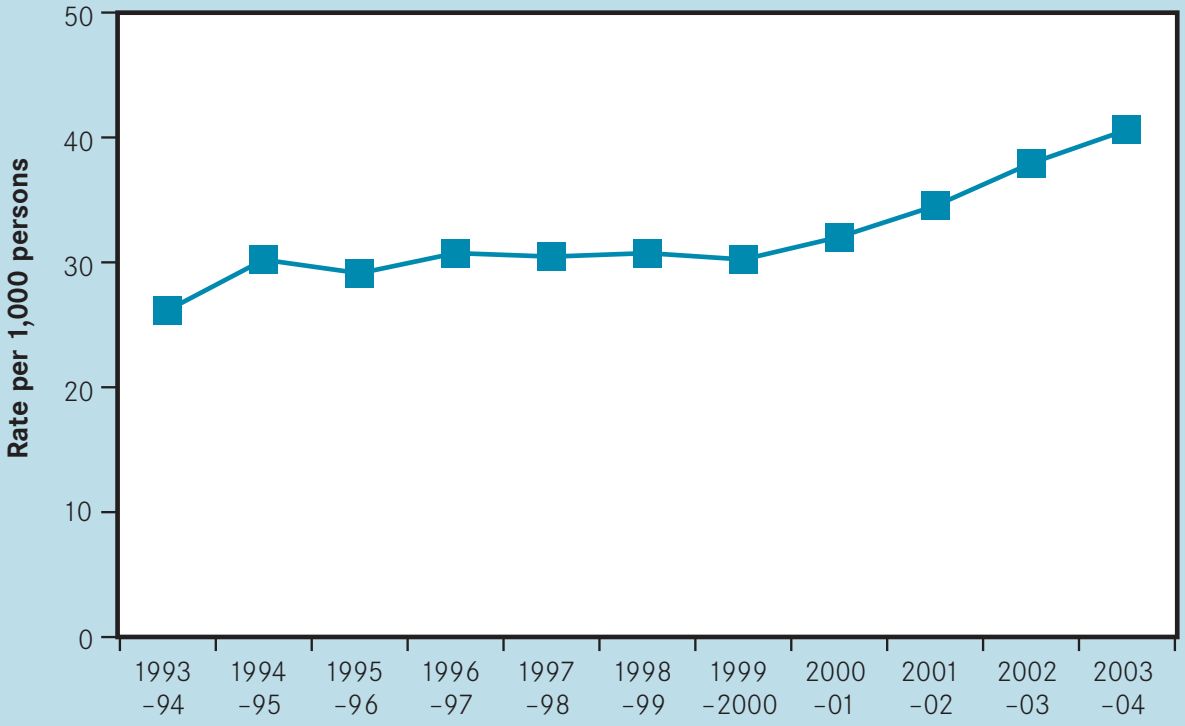
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Loddon Mallee Region

ACSCs admission rates, Loddon Mallee Region, 1993–94 to 2003–04



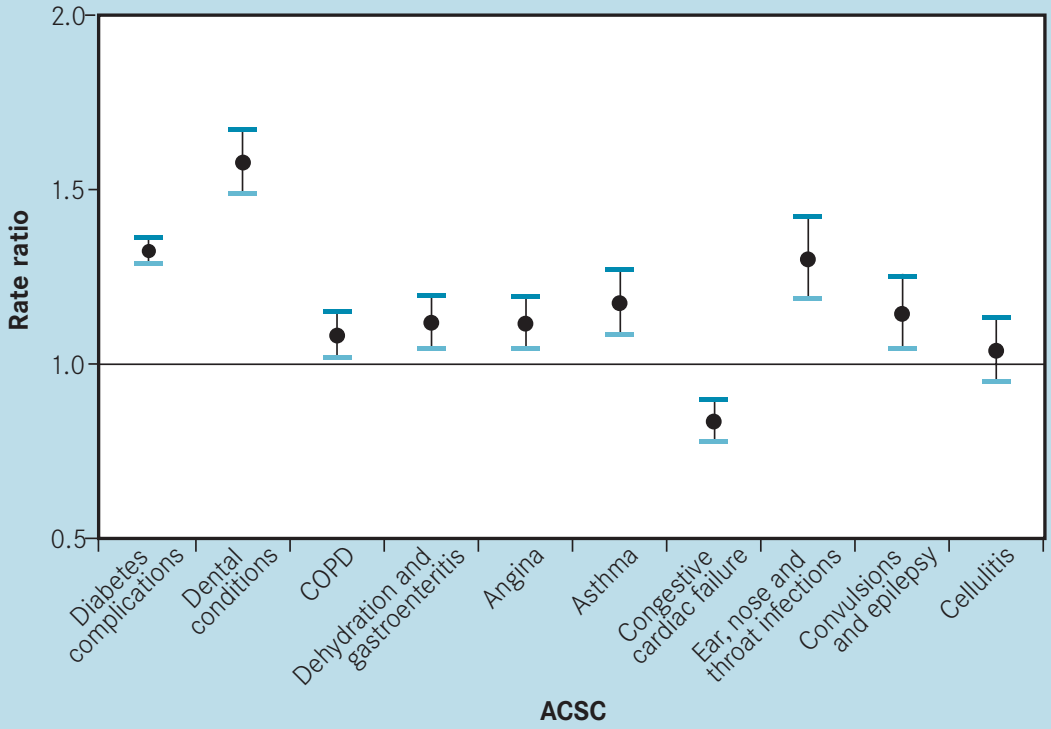
Top ten ACSCs, Loddon Mallee Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	5,265	14.97	14.57	15.38	5.06	26,625
Dental conditions	1,243	4.20	3.98	4.44	1.10	1,367
COPD	1,130	3.02	2.85	3.20	7.35	8,301
Dehydration and gastroenteritis	909	2.87	2.69	3.06	2.86	2,597
Angina	933	2.54	2.38	2.70	2.89	2,700
Asthma	652	2.15	1.99	2.32	2.75	1,796
Congestive cardiac failure	793	2.00	1.86	2.14	7.61	6,037
Ear, nose and throat infections	509	1.77	1.62	1.93	1.87	952
Convulsions and epilepsy	500	1.70	1.55	1.85	2.57	1,284
Cellulitis	525	1.59	1.46	1.73	5.72	3,002

Note: CI = confidence interval.

Loddon Mallee Region

Top ten ACSCs admission rate ratios, Loddon Mallee Region (Victoria=1), 2003–04



Key findings

- There were 14,050 admissions for total ACSCs in 2003–04, with an average of 4.44 bed days.
- The admission rates for total ACSCs increased from 26.18 per 1,000 persons (25.59–26.77) in 1993–94 to 40.61 per 1,000 persons (39.94–41.29) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 88.68 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs admissions were 4.39 in 2003–04.
- The admission rate ratios for most of the top ten ACSCs admissions were significantly higher than the Victorian averages in 2003–04.
- Dental conditions accounted for the highest admission rate ratio, 1.58 (1.49–1.67), in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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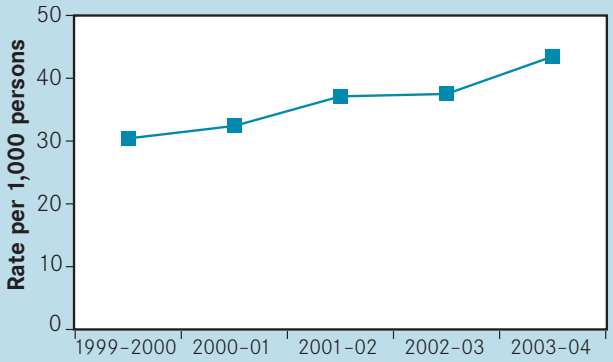
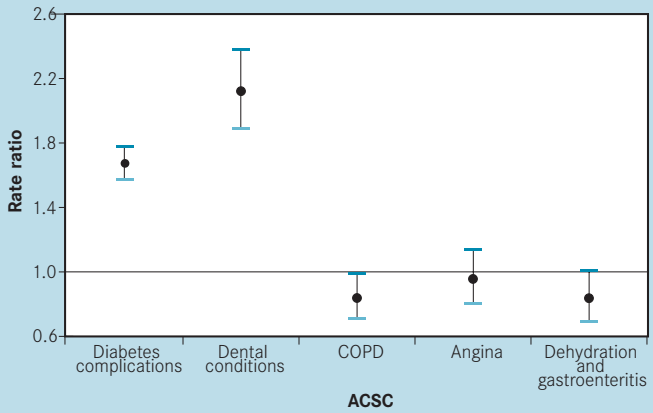
Northern Mallee Primary Care Partnership

ACSCs admission rates, Northern Mallee PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Northern Mallee PCP, (Victoria=1), 2003–04



Top five ACSCs, Northern Mallee PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,040	18.93	17.81	20.11	3.69	3,842
Dental conditions	293	5.65	5.04	6.34	1.08	315
COPD	137	2.34	1.98	2.77	7.12	976
Angina	126	2.17	1.83	2.59	2.38	300
Dehydration and gastroenteritis	111	2.15	1.78	2.59	2.14	237

Note: CI = confidence interval.

Key findings

- There were 2,402 admissions for total ACSCs in 2003–04, with an average of 3.44 bed days.
- The admission rates for total ACSCs increased from 30.42 per 1,000 persons (28.92–32.01) in 1999–2000 to 43.46 per 1,000 persons (41.74–45.25) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for two of the top five ACSCs (diabetes complications and dental conditions) were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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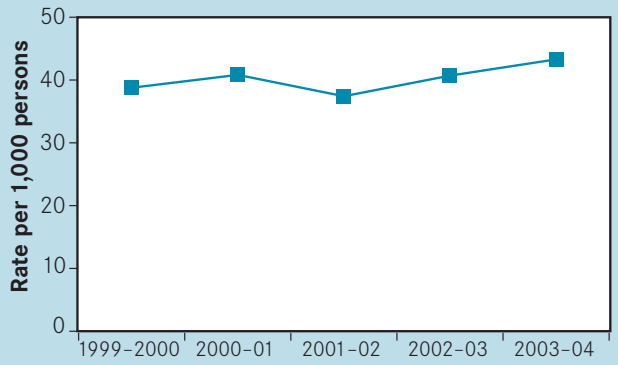
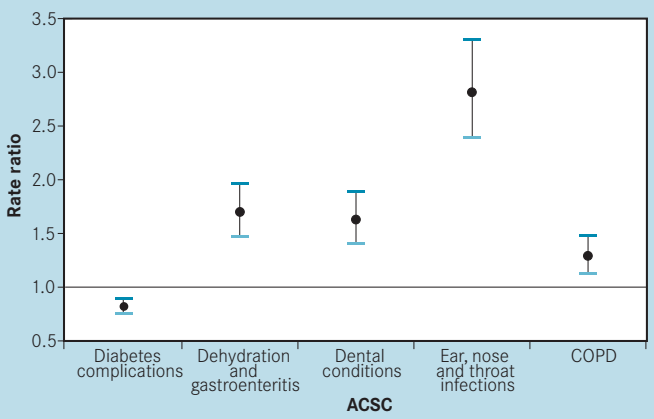
Southern Mallee Primary Care Partnership

ACSCs admission rates, Southern Mallee PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Southern Mallee PCP (Victoria=1), 2003–04



Top five ACSCs, Southern Mallee PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	541	9.28	8.53	10.10	5.68	3,075
Dehydration and gastroenteritis	186	4.36	3.78	5.04	2.84	529
Dental conditions	173	4.34	3.74	5.04	1.15	199
Ear, nose and throat infections	150	3.83	3.26	4.49	1.95	293
COPD	207	3.61	3.15	4.14	8.12	1,681

Note: CI = confidence interval.

Key findings

- There were 2,153 admissions for total ACSCs in 2003–04, with an average of 4.39 bed days.
- The admission rates for total ACSCs increased from 38.77 per 1,000 persons (37.00–40.63) in 1999–2000 to 43.29 per 1,000 persons (41.47–45.18) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs (except diabetes complications) were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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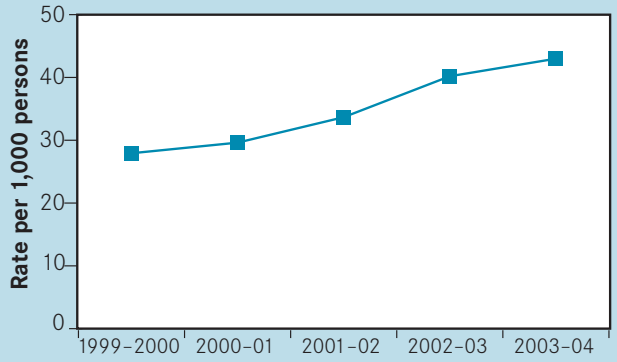
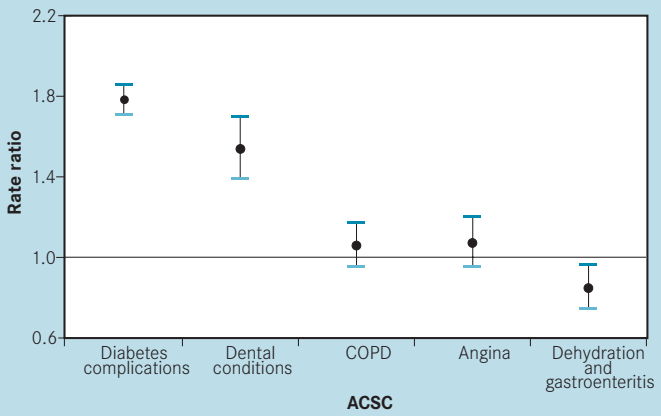
Bendigo/Loddon Primary Care Partnership

ACSCs admission rates, Bendigo/Loddon PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Bendigo/Loddon PCP (Victoria=1), 2003–04



Top five ACSCs, Bendigo/Loddon PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,361	20.16	19.37	20.99	4.73	11,159
Dental conditions	403	4.10	3.72	4.52	1.07	430
COPD	368	2.96	2.67	3.28	8.18	3,011
Angina	300	2.44	2.18	2.73	3.41	1,024
Dehydration and gastroenteritis	243	2.18	1.92	2.47	3.62	879

Note: CI = confidence interval.

Key findings

- There were 5,055 admissions for total ACSCs in 2003–04, with an average of 4.81 bed days.
- The admission rates for total ACSCs increased from 27.93 per 1,000 persons (26.93–28.97) in 1999–2000 to 42.98 per 1,000 persons (41.80–44.20) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for diabetes complications and dental conditions were significantly higher than the Victorian average in 2003–04.

For more information

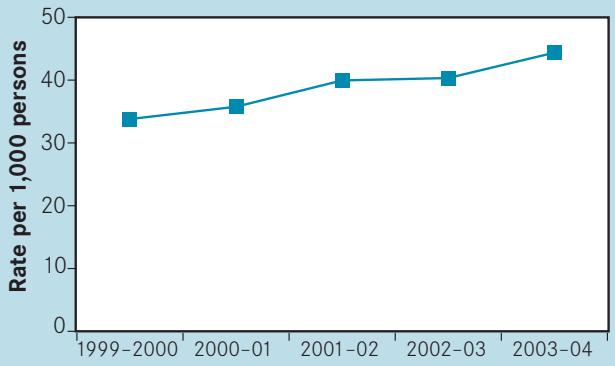
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

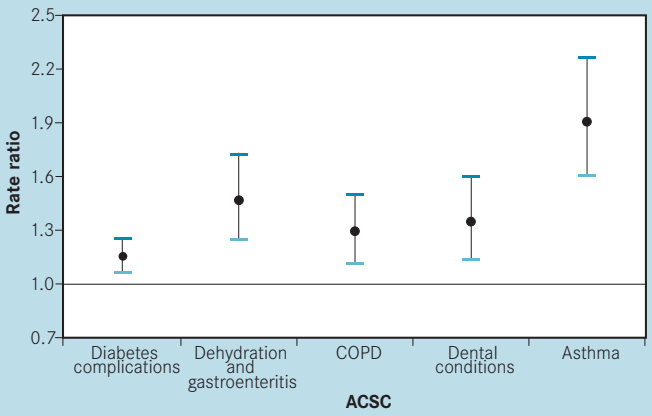
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Campaspe Primary Care Partnership

ACSCs admission rates, Campaspe PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Campaspe PCP (Victoria=1), 2003–04



Top five ACSCs, Campaspe PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	562	13.06	12.02	14.18	6.32	3,553
Dehydration and gastroenteritis	149	3.77	3.21	4.42	2.63	392
COPD	177	3.62	3.12	4.19	6.58	1,165
Dental conditions	133	3.59	3.03	4.26	1.14	151
Asthma	132	3.49	2.95	4.14	3.11	411

Note: CI = confidence interval.

Key findings

- There were 1,921 admissions for total ACSCs in 2003–04, with an average of 4.52 bed days.
- The admission rates for total ACSCs increased from 33.80 per 1,000 persons (32.02–35.67) in 1999–2000 to 44.37 per 1,000 persons (42.41–46.42) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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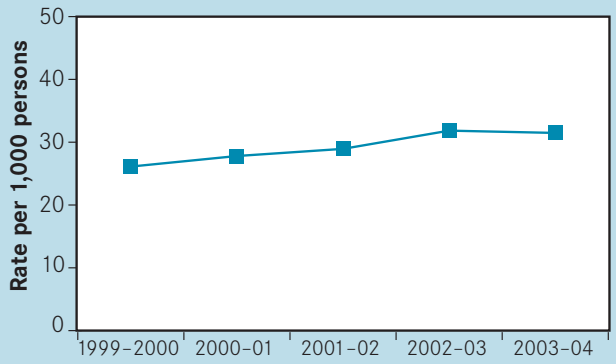
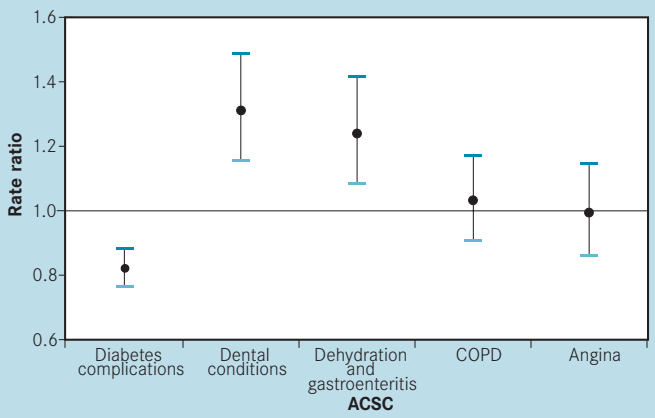
Central Victorian Health Alliance Primary Care Partnership

ACSCs admission rates, Central Victorian Health Alliance PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Central Victorian Health Alliance PCP (Victoria=1), 2003–04



Top five ACSCs, Central Victorian Health Alliance PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	761	9.29	8.65	9.97	6.57	4,996
Dental conditions	241	3.49	3.08	3.96	1.13	272
Dehydration and gastroenteritis	220	3.18	2.79	3.63	2.55	560
COPD	241	2.88	2.54	3.27	6.09	1,468
Angina	191	2.26	1.96	2.60	2.81	536

Note: CI = confidence interval.

Key findings

- There were 2,519 admissions for total ACSCs in 2003–04, with an average of 4.64 bed days.
- The admission rates for total ACSCs increased from 26.12 per 1,000 persons (24.93–27.36) in 1999–2000 to 31.48 per 1,000 persons (30.24–32.76) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for two of the top five ACSCs (dental conditions, and dehydration and gastroenteritis) were significantly higher than the Victorian average in 2003–04.

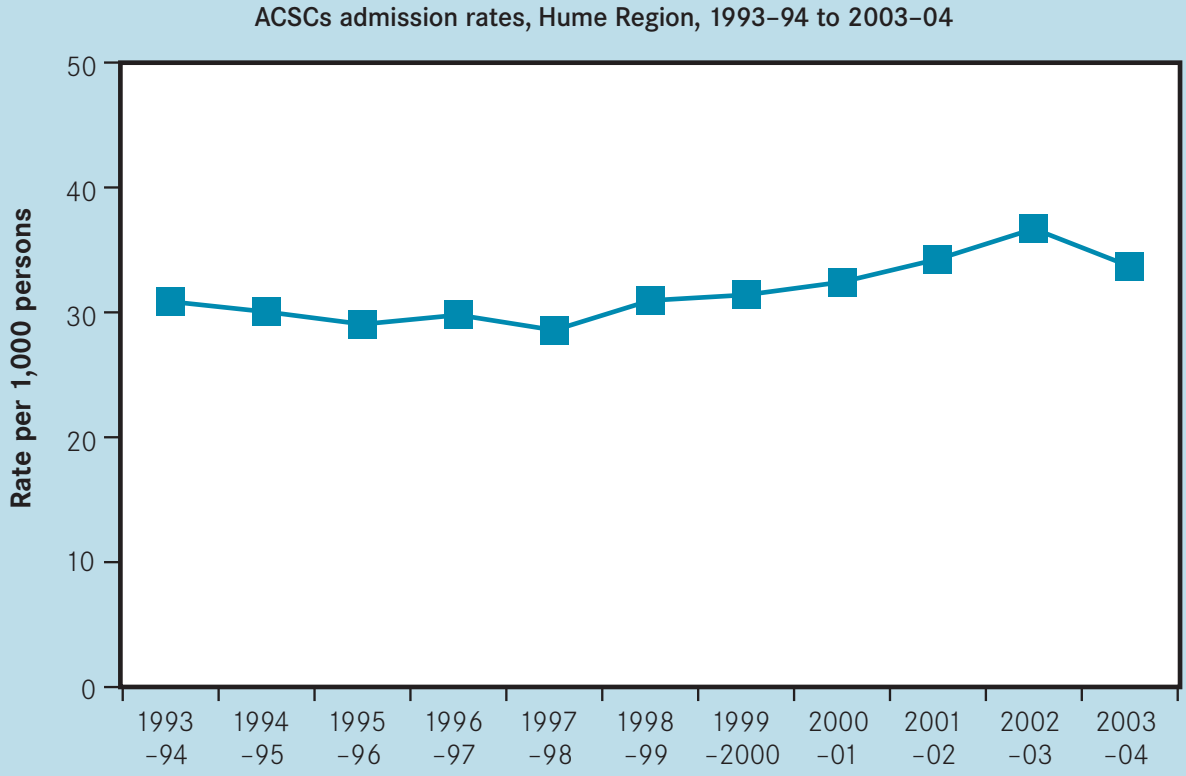
For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Hume Region

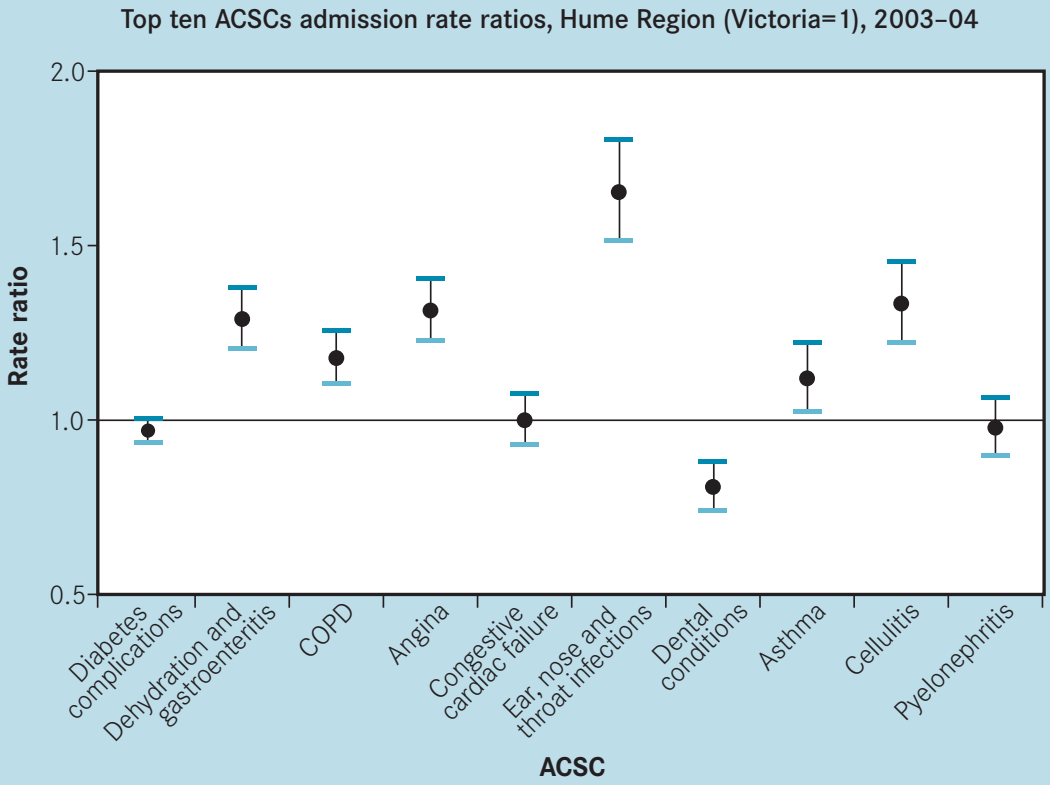


Top ten ACSCs, Hume Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	3,346	10.97	10.60	11.34	6.03	20,162
Dehydration and gastroenteritis	874	3.31	3.10	3.54	2.52	2,206
COPD	1,007	3.29	3.09	3.50	7.64	7,698
Angina	893	2.99	2.80	3.19	2.55	2,280
Congestive cardiac failure	750	2.39	2.23	2.57	7.91	5,931
Ear, nose and throat infections	549	2.25	2.07	2.44	1.82	999
Dental conditions	539	2.15	1.98	2.34	1.16	625
Asthma	524	2.05	1.88	2.23	2.59	1,359
Cellulitis	552	2.04	1.87	2.21	4.96	2,738
Pyelonephritis	550	1.99	1.83	2.16	4.34	2,385

Note: CI = confidence interval.

Hume Region



Key findings

- There were 10,948 admissions for total ACSCs in 2003–04, with an average of 4.79 bed days.
- The admission rates for total ACSCs increased from 30.86 per 1,000 persons (30.16–31.56) in 1993–94 to 33.69 per 1,000 persons (33.08–34.30) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 87.54 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs admissions were 4.84 in 2003–04.
- The admission rate ratios for six of the top ten ACSCs admissions were significantly higher than the Victorian averages in 2003–04.
- Ear, nose and throat infections accounted for the highest admission rate ratio, 1.65 (1.52–1.80), in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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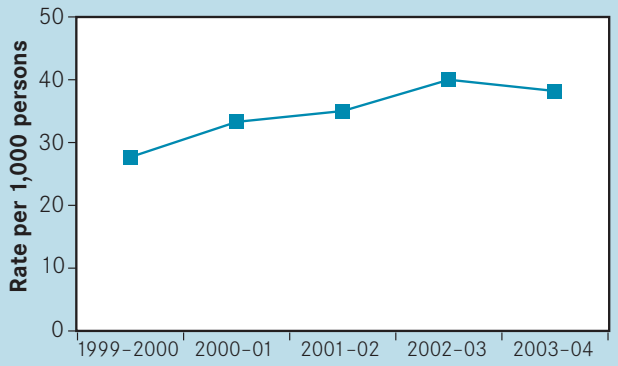
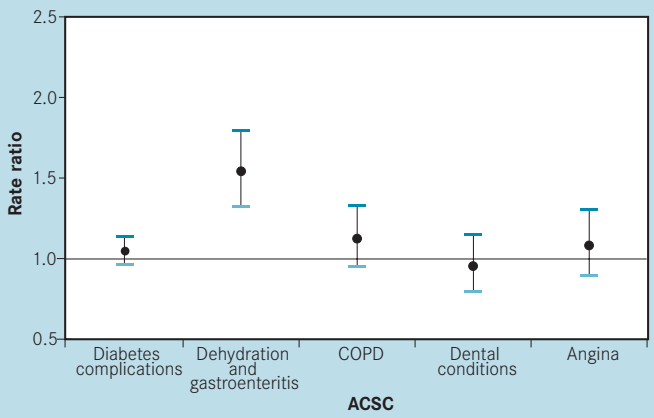
Lower Hume Primary Care Partnership

ACSCs admission rates, Lower Hume PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Lower Hume PCP (Victoria=1), 2003–04



Top five ACSCs, Lower Hume PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	564	11.84	10.90	12.85	4.60	2,596
Dehydration and gastroenteritis	168	3.96	3.40	4.60	2.74	460
COPD	135	3.14	2.65	3.72	9.56	1,290
Dental conditions	114	2.54	2.11	3.05	1.16	132
Angina	108	2.46	2.04	2.97	2.94	317

Note: CI = confidence interval.

Key findings

- There were 1,741 admissions for total ACSCs in 2003–04, with an average of 4.63 bed days.
- The admission rates for total ACSCs increased from 27.69 per 1,000 persons (26.09–29.40) in 1999–2000 to 38.20 per 1,000 persons (36.43–40.06) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs (except dehydration and gastroenteritis) were similar to the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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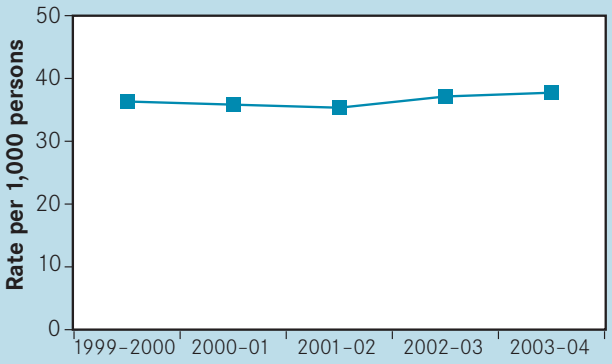
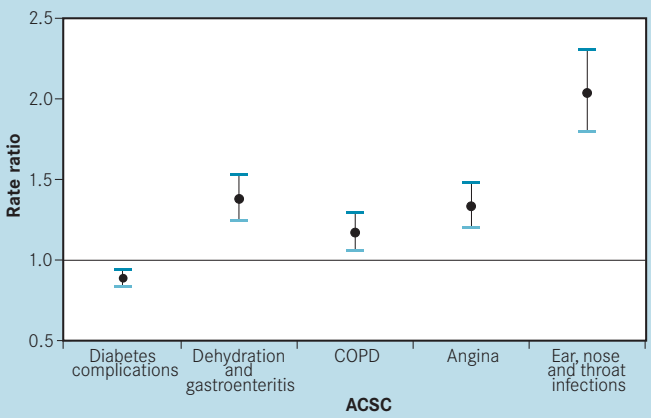
Goulburn Valley Primary Care Partnership

ACSCs admission rates, Goulburn Valley PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Goulburn Valley PCP (Victoria=1), 2003–04



Top five ACSCs, Goulburn Valley PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,191	10.03	9.48	10.62	6.87	8,179
Dehydration and gastroenteritis	363	3.54	3.19	3.92	2.66	965
COPD	399	3.27	2.96	3.61	7.28	2,905
Angina	353	3.03	2.73	3.36	2.84	1,001
Ear, nose and throat infections	258	2.77	2.45	3.13	1.81	467

Note: CI = confidence interval.

Key findings

- There were 4,290 admissions for total ACSCs in 2003–04, with an average of 4.82 bed days.
- The admission rates for total ACSCs over the five-year period were similar, at 36.33 per 1,000 persons (35.16–37.54) in 1999–2000 and 37.73 per 1,000 persons (36.60–38.90) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for most of the top five ACSCs (except diabetes complications) were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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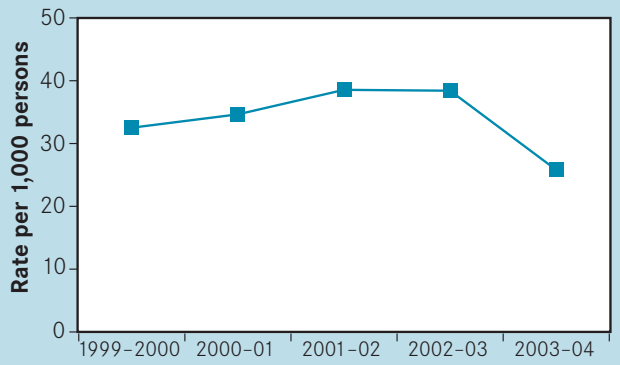
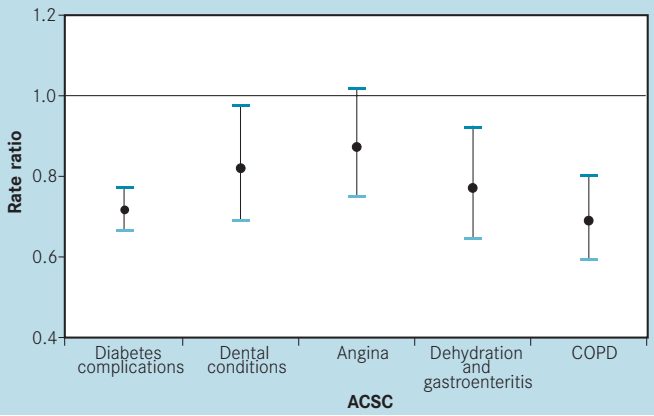
Central Hume Primary Care Partnership

ACSCs admission rates, Central Hume PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Central Hume PCP (Victoria=1), 2003–04



Top five ACSCs, Central Hume PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	701	8.11	7.53	8.73	4.94	3,461
Dental conditions	130	2.19	1.84	2.60	1.20	156
Angina	167	1.98	1.70	2.31	2.38	398
Dehydration and gastroenteritis	122	1.98	1.66	2.36	2.59	316
COPD	170	1.93	1.66	2.24	7.97	1,355

Note: CI = confidence interval.

Key findings

- There were 2,021 admissions for total ACSCs in 2003–04, with an average of 4.65 bed days.
- The admission rates for total ACSCs decreased from 32.52 per 1,000 persons (31.18–33.91) in 1999–2000 to 25.80 per 1,000 persons (24.68–26.97) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs were similar to or significantly lower than the Victorian average in 2003–04.

For more information

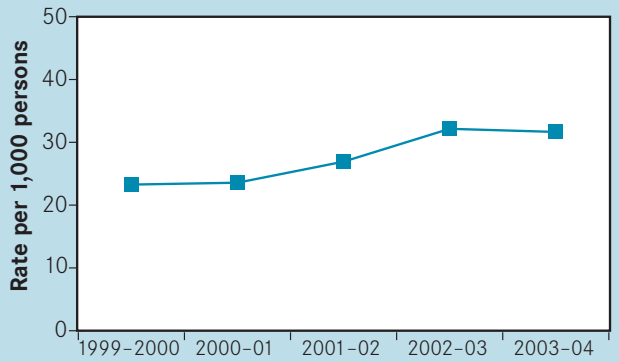
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

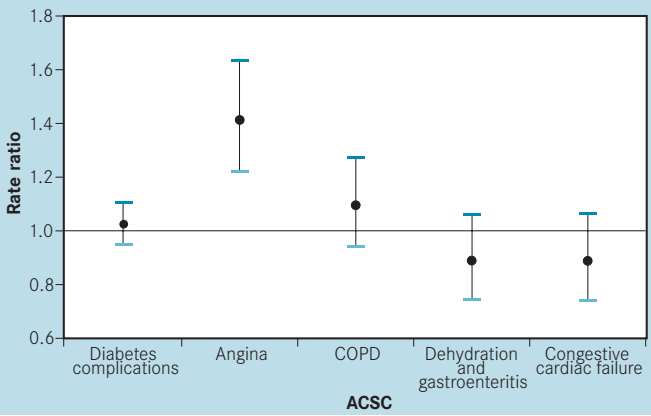
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Upper Hume Primary Care Partnership

ACSCs admission rates, Upper Hume PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Upper Hume PCP (Victoria=1), 2003–04



Top five ACSCs, Upper Hume PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	665	11.59	10.74	12.51	6.66	4,432
Angina	182	3.21	2.78	3.71	1.93	351
COPD	170	3.06	2.63	3.56	6.76	1,150
Dehydration and gastroenteritis	123	2.28	1.91	2.72	1.92	236
Congestive cardiac failure	119	2.13	1.78	2.54	6.55	779

Note: CI = confidence interval.

Key findings

- There were 1,828 admissions for total ACSCs in 2003–04, with an average of 5.09 bed days.
- The admission rates for total ACSCs increased from 23.27 per 1,000 persons (21.99–24.63) in 1999–2000 to 31.65 per 1,000 persons (30.21–33.16) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs admissions (except angina) were similar to the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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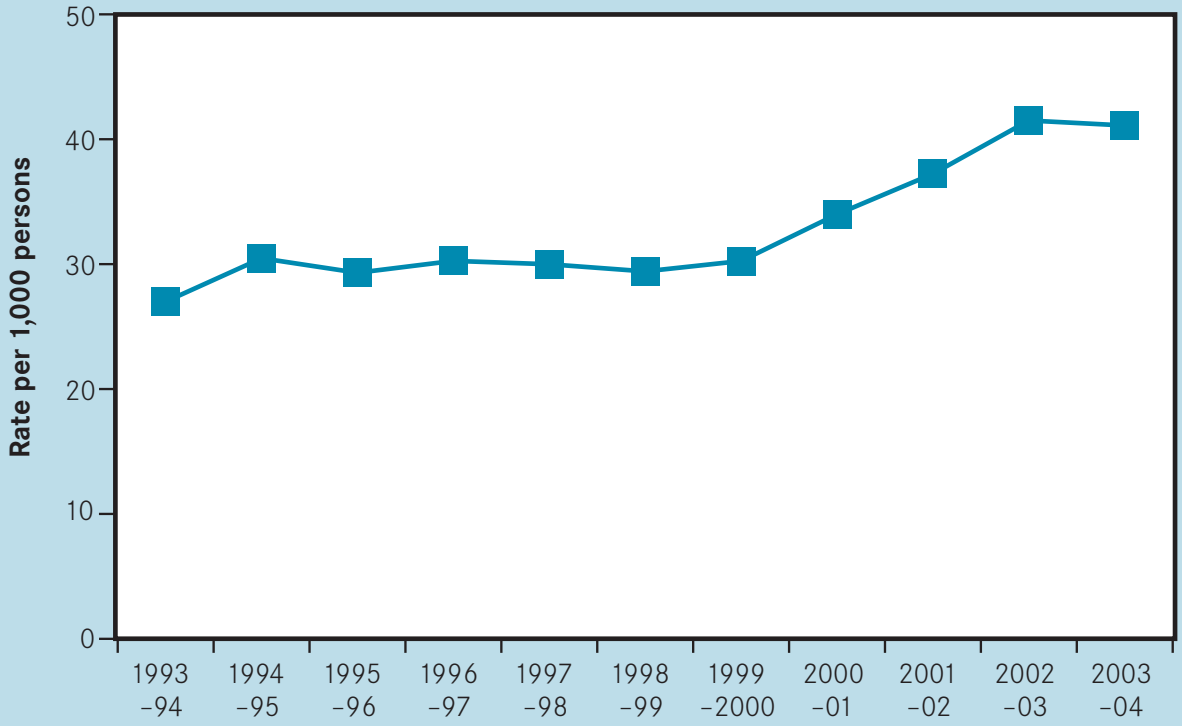
Gippsland Region

ACSCs admission rates, Gippsland Region, 1993–94 to 2003–04

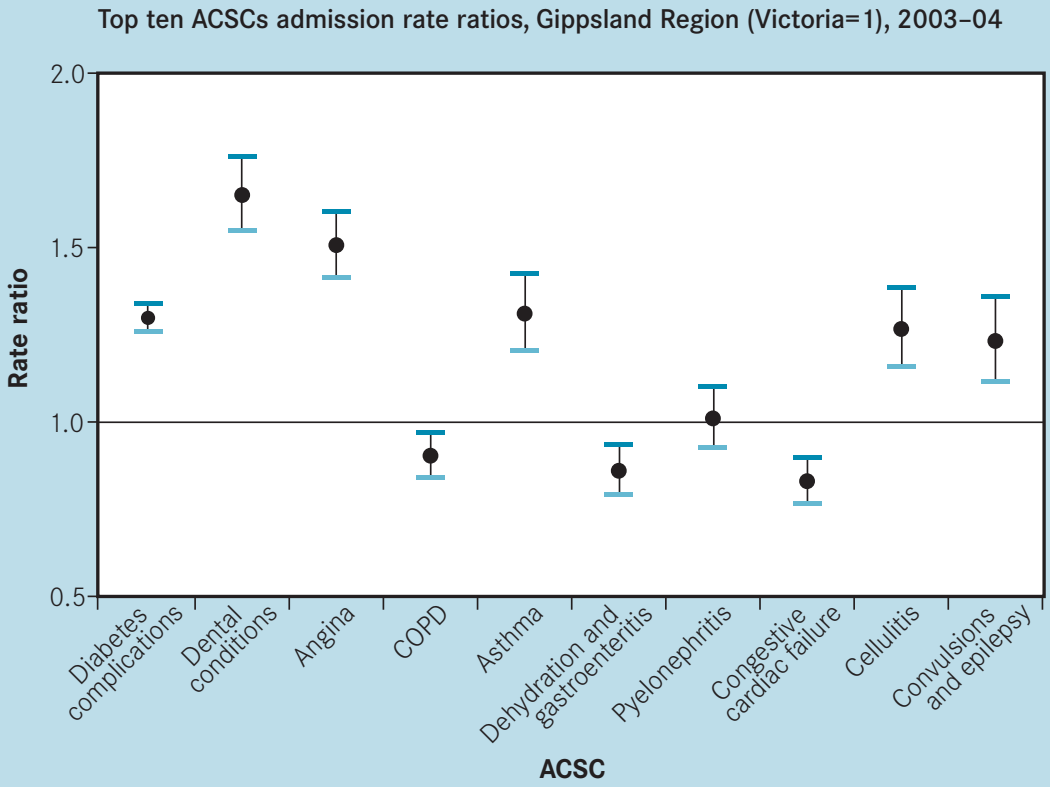


Top ten ACSCs, Gippsland Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	4,520	14.69	14.26	15.12	4.53	20,472
Dental conditions	993	4.40	4.13	4.68	1.09	1,082
Angina	1,067	3.43	3.23	3.64	2.36	2,522
COPD	808	2.52	2.36	2.70	7.07	5,712
Asthma	571	2.40	2.21	2.61	2.44	1,391
Dehydration and gastroenteritis	573	2.21	2.03	2.40	2.62	1,504
Pyelonephritis	553	2.05	1.89	2.23	4.35	2,408
Congestive cardiac failure	647	1.99	1.84	2.15	7.50	4,850
Cellulitis	513	1.94	1.77	2.11	6.20	3,181
Convulsions and epilepsy	422	1.83	1.66	2.01	2.87	1,211

Note: CI = confidence interval.

Gippsland Region



Key findings

- There were 11,728 admissions for total ACSCs in 2003–04, with an average of 4.21 bed days.
- The admission rates for total ACSCs increased from 27.00 per 1,000 persons (26.33–27.65) in 1993–94 to 41.10 per 1,000 persons (40.36–41.85) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 90.95 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs were 4.16 in 2003–04.
- The admission rate ratios for diabetes complications, dental conditions, angina, asthma, cellulitis, and convulsions and epilepsy were significantly higher than the Victorian averages in 2003–04.
- Dental conditions accounted for the highest admission rate ratio, 1.65 (1.55–1.76), in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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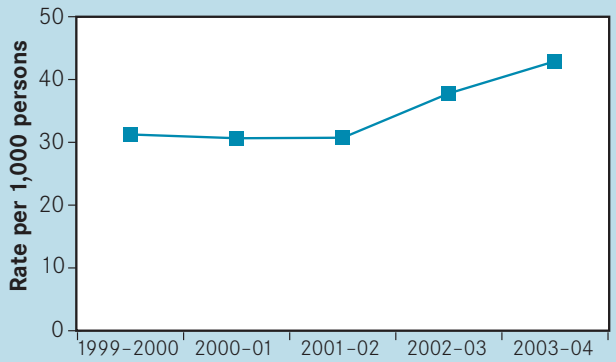
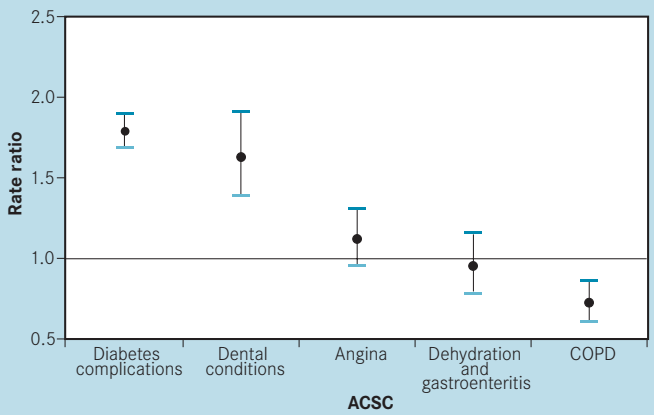
East Gippsland Primary Care Partnership

ACSCs admission rates, East Gippsland PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, East Gippsland PCP (Victoria=1), 2003–04



Top five ACSCs, East Gippsland PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,156	20.23	19.10	21.43	3.36	3,880
Dental conditions	154	4.34	3.71	5.08	1.22	188
Angina	156	2.55	2.18	2.98	1.98	309
Dehydration and gastroenteritis	98	2.45	2.01	2.98	2.15	211
COPD	125	2.03	1.70	2.41	6.53	816

Note: CI = confidence interval.

Key findings

- There were 2,228 admissions for total ACSCs in 2003–04, with an average of 3.72 bed days.
- The admission rates for total ACSCs increased from 31.30 per 1,000 persons (29.71–32.88) in 1999–2000 to 42.90 per 1,000 persons (41.14–44.75) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for two of the top five ACSCs admissions (diabetes complications and dental conditions) were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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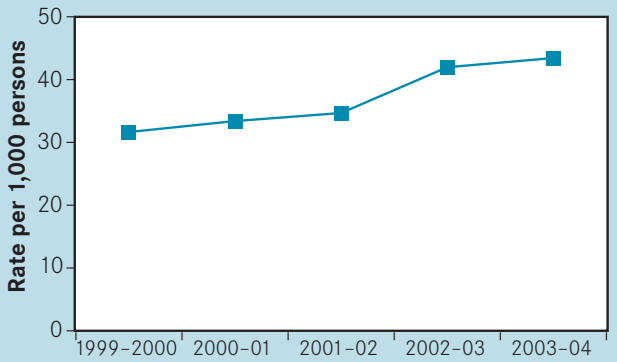
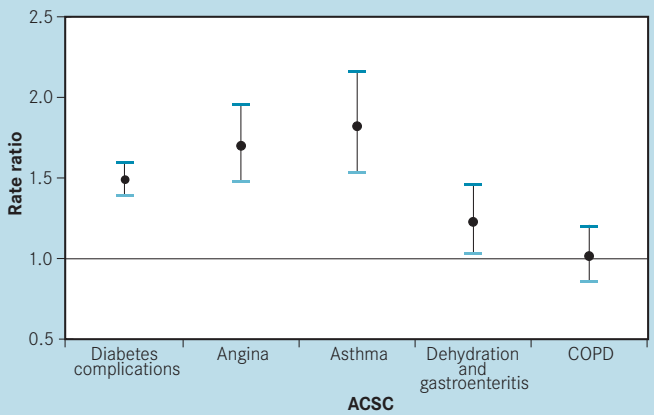
Wellington Primary Care Partnership

ACSCs admission rates, Wellington PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Wellington PCP (Victoria=1), 2003–04



Top five ACSCs, Wellington PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	851	16.85	15.75	18.02	3.99	3,399
Angina	195	3.86	3.36	4.45	2.93	571
Asthma	133	3.34	2.82	3.96	2.35	313
Dehydration and gastroenteritis	132	3.15	2.66	3.74	2.56	338
COPD	142	2.84	2.41	3.34	7.54	1,070

Note: CI = confidence interval.

Key findings

- There were 2,084 admissions for total ACSCs in 2003–04, with an average of 4.03 bed days.
- The admission rates for total ACSCs increased from 31.70 per 1,000 persons (30.02–33.36) in 1999–2000 to 43.40 per 1,000 persons (41.58–45.37) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for most of the top five ACSCs admissions were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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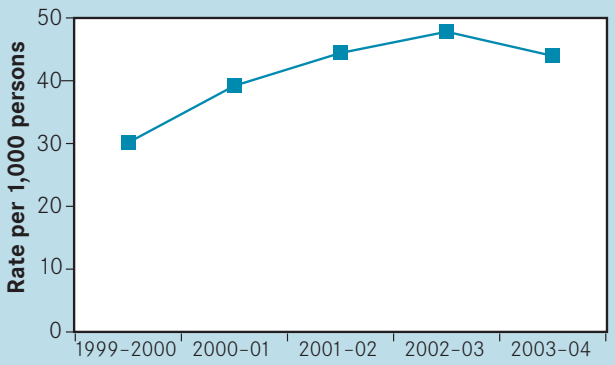
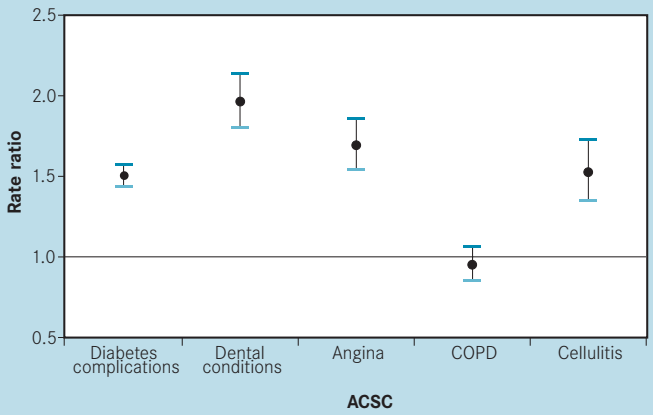
Central West Primary Care Partnership

ACSCs admission rates, Central West PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Central West PCP (Victoria=1), 2003–04



Top five ACSCs, Central West PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,033	17.02	16.29	17.77	4.77	9,688
Dental conditions	538	5.23	4.81	5.70	1.05	566
Angina	458	3.85	3.51	4.22	2.15	983
COPD	319	2.66	2.38	2.97	7.35	2,346
Cellulitis	256	2.33	2.06	2.64	6.69	1,713

Note: CI = confidence interval.

Key findings

- There were 5,179 admissions for total ACSCs in 2003–04, with an average of 4.24 bed days.
- The admission rates for total ACSCs increased from 30.20 per 1,000 persons (29.14–31.22) in 1999–2000 to 44.00 per 1,000 persons (42.75–45.18) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for most of the top five ACSCs admissions (except chronic obstructive pulmonary disease) were significantly higher than the Victorian average in 2003–04.

For more information

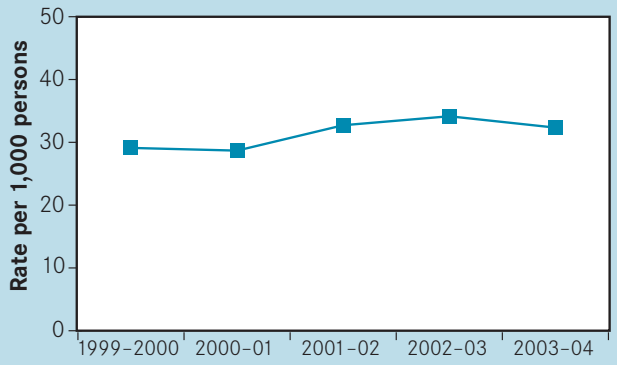
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

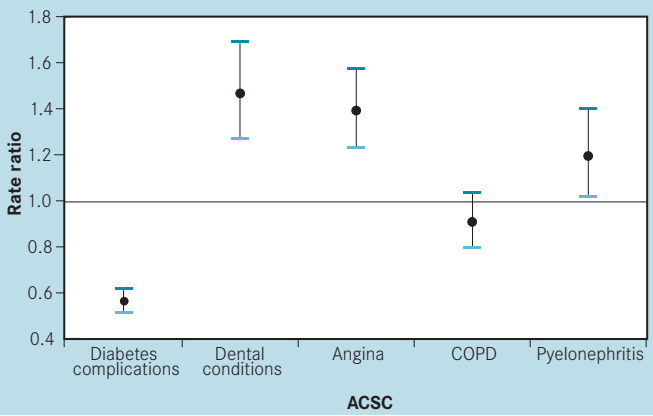
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

South Coast Health Services Consortium Primary Care Partnership

ACSCs admission rates, South Coast Health Services Consortium PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, South Coast Health Services Consortium PCP (Victoria=1), 2003–04



Top five ACSCs, South Coast Health Services Consortium PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	480	6.38	5.83	6.98	7.30	3,505
Dental conditions	192	3.91	3.39	4.50	1.10	212
Angina	258	3.16	2.80	3.57	2.55	659
COPD	222	2.54	2.23	2.89	6.67	1,480
Pyelonephritis	154	2.43	2.07	2.84	4.45	685

Note: CI = confidence interval.

Key findings

- There were 2,237 admissions for total ACSCs in 2003–04, with an average of 4.77 bed days.
- The admission rates for total ACSCs increased from 29.10 per 1,000 persons (27.75–30.53) in 1999–2000 to 32.30 per 1,000 persons (31.01–33.73) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for three of the top five ACSCs admissions (dental conditions, angina and pyelonephritis) were significantly higher than the Victorian average in 2003–04.

For more information

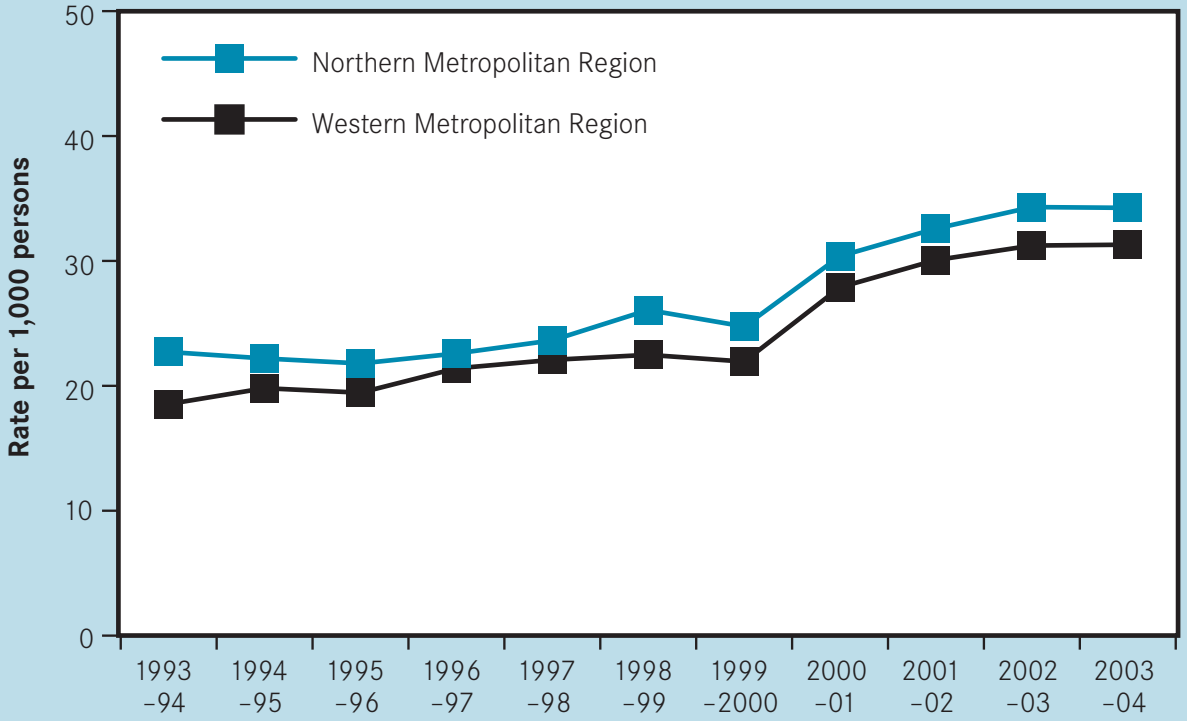
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

North and West Metropolitan Region

ACSCs admission rates, former Northern and Western Metropolitan Regions, 1993–94 to 2003–04



Note: The former Northern and Western Metropolitan Regions were amalgamated in February 2004 to form the North and West Metropolitan Region. Historical data are not available for this region at present.

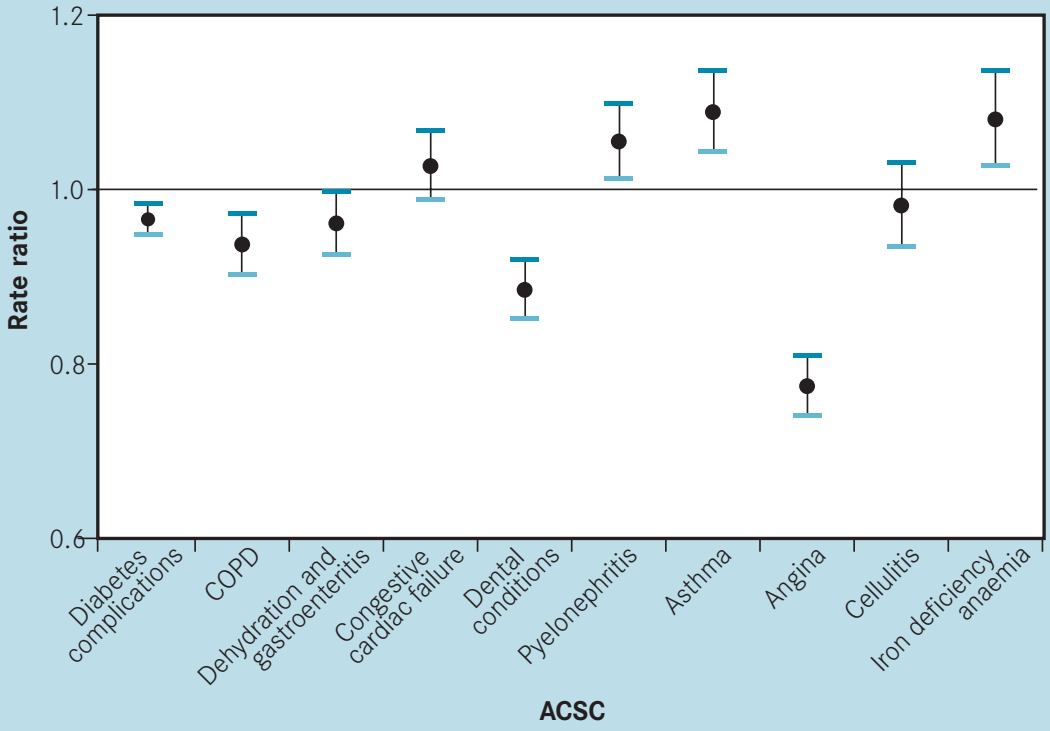
Top ten ACSCs, North and West Metropolitan Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	14,749	10.92	10.75	11.10	8.65	127,626
COPD	3,529	2.62	2.53	2.71	6.44	22,736
Dehydration and gastroenteritis	3,520	2.47	2.39	2.55	2.26	7,956
Congestive cardiac failure	3,308	2.46	2.37	2.54	6.90	22,832
Dental conditions	3,310	2.36	2.28	2.44	1.14	3,770
Pyelonephritis	2,967	2.14	2.07	2.22	4.48	13,304
Asthma	2,759	2.00	1.92	2.07	1.89	5,206
Angina	2,412	1.76	1.69	1.83	2.23	5,370
Cellulitis	2,084	1.50	1.44	1.57	5.15	10,731
Iron deficiency anaemia	1,949	1.42	1.36	1.48	1.78	3,468

Note: CI = confidence interval.

North and West Metropolitan Region

Top ten ACSCs admission rate ratios, North and West Metropolitan Region (Victoria=1), 2003–04



Key findings

The Northern Metropolitan Region and Western Metropolitan Region were combined into the North and West Metropolitan Region in February 2004.

The admission rates for total ACSCs in the Western Metropolitan Region and Northern Metropolitan Region increased from 22.71 per 1,000 persons (22.29–23.12) and 18.54 per 1,000 persons (18.22–18.86) respectively in 1993–94 to 34.25 per 1,000 persons (33.79–34.71) and 31.30 per 1,000 persons (30.92–31.69) respectively in 2003–04.

The admission rate for total ACSCs was 32.60 per 1,000 persons (32.35–32.94) for the North and West Metropolitan Region in 2003–04.

The following findings relate to the North and West Metropolitan Region.

- There were 46,746 admissions for total ACSCs in 2003–04, with an average of 5.37 bed days.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 86.82 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs admissions were 5.49 in 2003–04.
- The admission rate ratios for pyelonephritis, asthma and iron deficiency anaemia were significantly higher than the Victorian averages in 2003–04.
- Asthma accounted for the highest admission rate ratio, 1.08 (1.04–1.14), in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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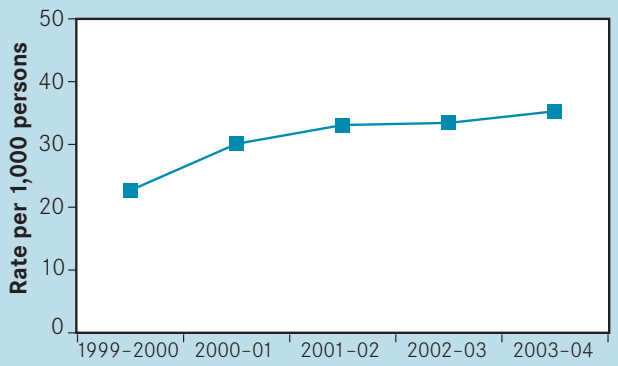
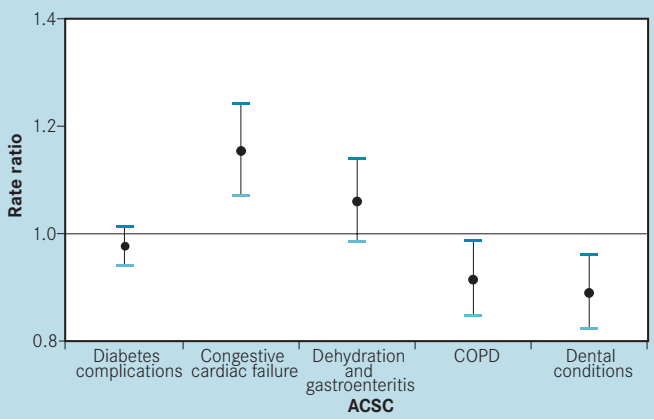
Hume/Moreland Primary Care Partnership

ACSCs admission rates, Hume/Moreland PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Hume/Moreland PCP (Victoria=1), 2003–04



Top five ACSCs, Hume/Moreland PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	3,039	11.04	10.66	11.44	9.04	27,465
Congestive cardiac failure	746	2.76	2.57	2.97	7.10	5,295
Dehydration and gastroenteritis	758	2.72	2.53	2.92	2.15	1,627
COPD	703	2.55	2.37	2.75	6.33	4,450
Dental conditions	666	2.37	2.20	2.56	1.13	750

Note: CI = confidence interval.

Key findings

- There were 9,765 admissions for total ACSCs in 2003–04, with an average of 5.53 bed days.
- The admission rates for total ACSCs increased from 22.70 per 1,000 persons (22.12–23.30) in 1999–2000 to 35.28 per 1,000 persons (34.59–35.99) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for congestive cardiac failure were significantly higher than the Victorian average in 2003–04.

For more information

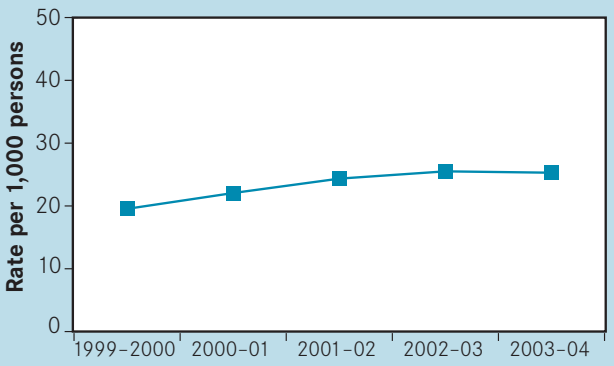
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

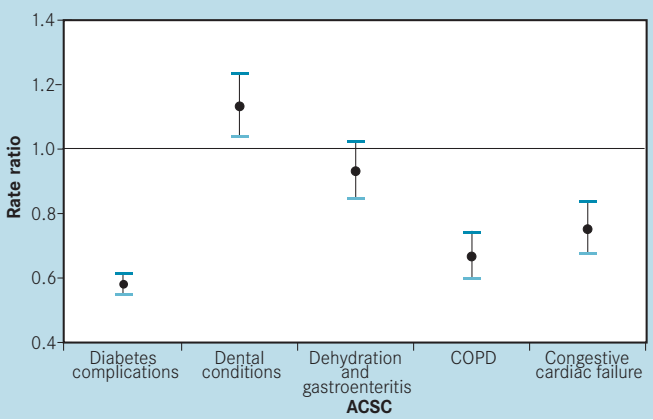
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Banyule/Nillumbik Primary Care Partnership

ACSCs admission rates, Banyule/Nillumbik PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Banyule/Nillumbik PCP (Victoria=1), 2003–04



Top five ACSCs, Banyule/Nillumbik PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,197	6.57	6.21	6.95	9.53	11,412
Dental conditions	541	3.02	2.77	3.28	1.12	606
Dehydration and gastroenteritis	435	2.39	2.18	2.63	2.11	918
COPD	341	1.86	1.68	2.07	7.78	2,653
Congestive cardiac failure	344	1.80	1.62	2.00	5.99	2,059

Note: CI = confidence interval.

Key findings

- There were 4,782 admissions for total ACSCs in 2003–04, with an average of 5.23 bed days.
- The admission rates for total ACSCs increased from 19.50 per 1,000 persons (18.89–20.21) in 1999–2000 to 25.29 per 1,000 persons (24.57–26.03) in 2003–04.
- Diabetes complications were the leading cause of ACSCs admissions in 2003–04.
- Admission rate ratios for dental conditions were significantly higher than the Victorian average in 2003–04.

For more information

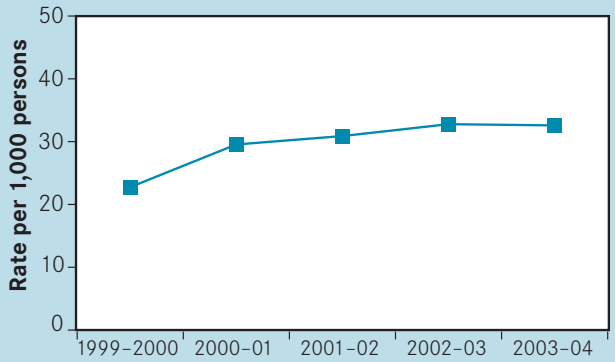
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

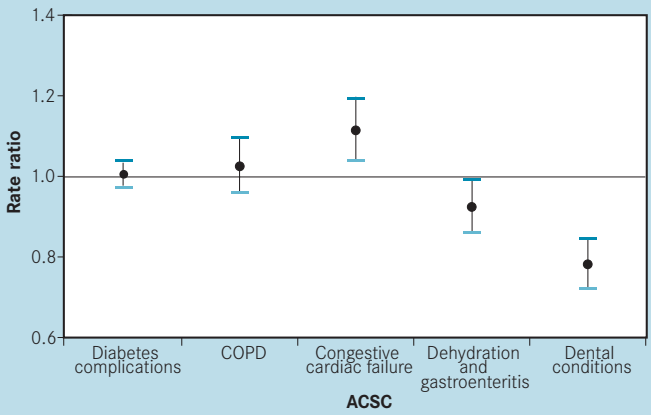
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

North Central Metropolitan Primary Care Partnership

ACSCs admission rates, North Central Metropolitan PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, North Central Metropolitan PCP (Victoria=1), 2003–04



Top five ACSCs, North Central Metropolitan PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	3,570	11.37	11.00	11.75	8.51	30,397
COPD	918	2.86	2.68	3.06	5.93	5,445
Congestive cardiac failure	851	2.67	2.49	2.85	7.07	6,016
Dehydration and gastroenteritis	788	2.37	2.21	2.54	2.22	1,750
Dental conditions	629	2.08	1.93	2.25	1.23	775

Note: CI = confidence interval.

Key findings

- There were 10,833 admissions for total ACSCs in 2003–04, with an average of 5.55 bed days.
- The admission rates for total ACSCs increased from 22.76 per 1,000 persons (22.21–23.31) in 1999–2000 to 32.59 per 1,000 persons (31.96–33.22) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for congestive cardiac failure were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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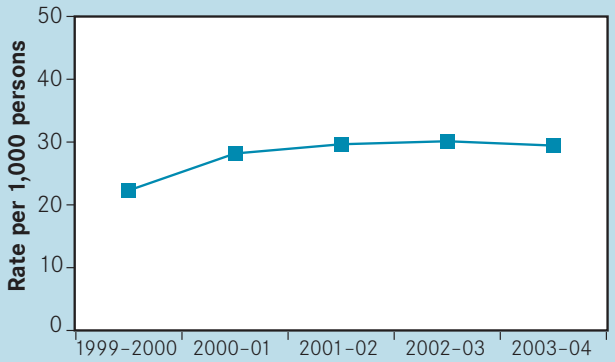
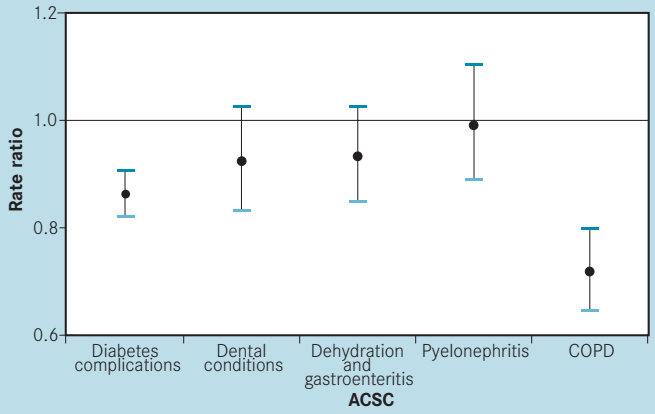
Moonee Valley/Melbourne Primary Care Partnership

ACSCs admission rates, Moonee Valley/Melbourne PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Moonee Valley/Melbourne PCP (Victoria=1), 2003–04



Top five ACSCs, Moonee Valley/Melbourne PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,670	9.76	9.30	10.24	8.45	14,114
Dental conditions	365	2.46	2.22	2.73	1.13	413
Dehydration and gastroenteritis	435	2.39	2.18	2.63	2.15	935
Pyelonephritis	345	2.01	1.81	2.24	4.50	1,552
COPD	346	2.01	1.81	2.23	6.95	2,405

Note: CI = confidence interval.

Key findings

- There were 5,149 admissions for total ACSCs in 2003–04, with an average of 5.26 bed days.
- The admission rates for total ACSCs increased from 22.31 per 1,000 persons (21.58–23.07) in 1999–2000 to 29.44 per 1,000 persons (28.63–30.27) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The admission rate ratios for all the top five ACSCs admissions were similar to or significantly lower than the Victorian average in 2003–04.

For more information

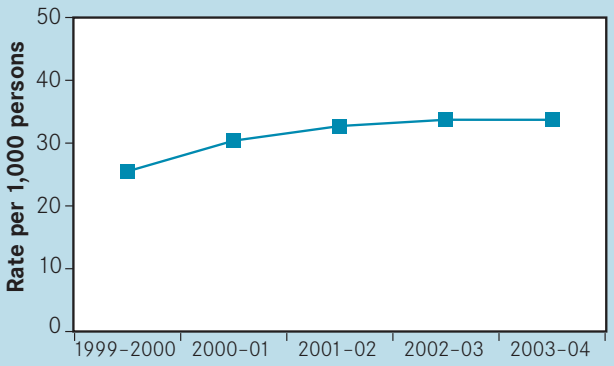
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

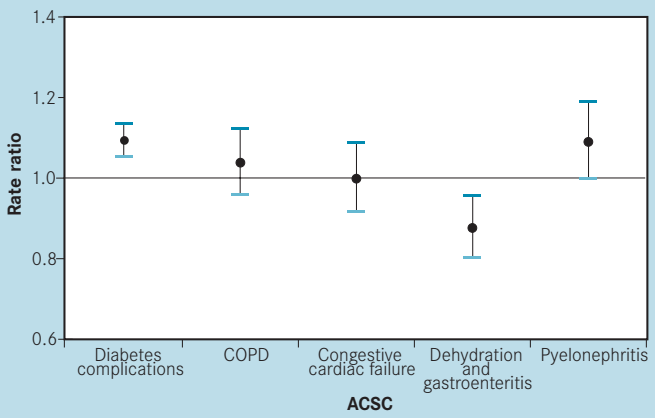
Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

West Bay Primary Care Partnership

ACSCs admission rates, West Bay PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, West Bay PCP (Victoria=1), 2003–04



Top five ACSCs, West Bay PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,792	12.37	11.92	12.84	8.44	23,578
COPD	645	2.90	2.69	3.13	6.80	4,386
Congestive cardiac failure	540	2.39	2.20	2.60	7.19	3,882
Dehydration and gastroenteritis	533	2.25	2.07	2.45	2.78	1,482
Pyelonephritis	520	2.21	2.03	2.41	4.81	2,499

Note: CI = confidence interval.

Key findings

- There were 8,301 admissions for total ACSCs in 2003–04, with an average of 5.49 bed days.
- The admission rates for total ACSCs increased from 25.51 per 1,000 persons (24.84–26.20) in 1999–2000 to 33.71 per 1,000 persons (32.98–34.47) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for diabetes complications were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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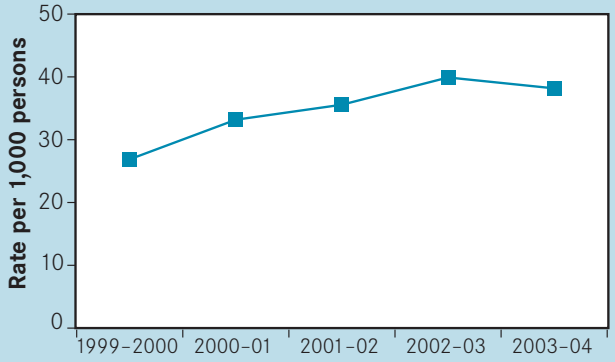
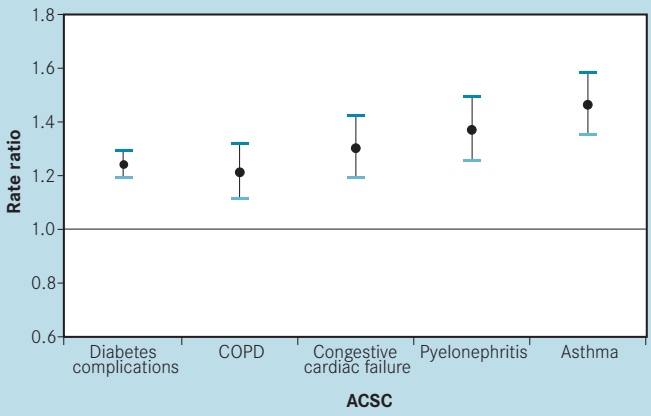
Brimbank/Melton Primary Care Partnership

ACSCs admission rates, Brimbank/Melton PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Brimbank/Melton PCP (Victoria=1), 2003–04



Top five ACSCs, Brimbank/Melton PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,481	14.04	13.50	14.60	8.33	20,660
COPD	576	3.39	3.12	3.68	5.90	3,397
Congestive cardiac failure	507	3.12	2.86	3.40	7.11	3,607
Pyelonephritis	546	2.78	2.56	3.03	3.81	2,079
Asthma	643	2.68	2.48	2.90	1.55	994

Note: CI = confidence interval.

Key findings

- There were 7,916 admissions for total ACSCs in 2003–04, with an average of 4.93 bed days.
- The admission rates for total ACSCs increased from 26.89 per 1,000 persons (26.11–27.68) in 1999–2000 to 38.17 per 1,000 persons (37.32–39.05) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The admission rate ratios for all the top five ACSCs admissions were significantly higher than the Victorian average in 2003–04.

For more information

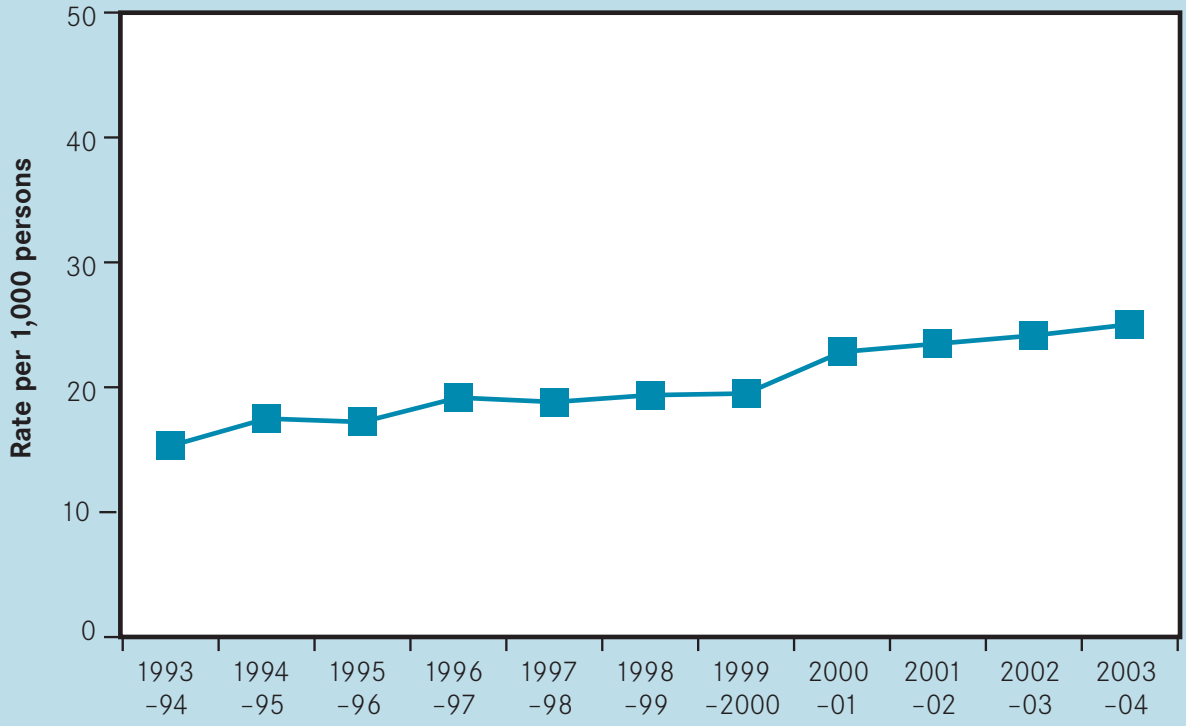
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

Dr Zahid Ansari, Senior Clinical Epidemiologist, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4242**, **Zahid.Ansari@dhs.vic.gov.au**

Eastern Metropolitan Region

ACSCs admission rates, Eastern Metropolitan Region, 1993–94 to 2003–04



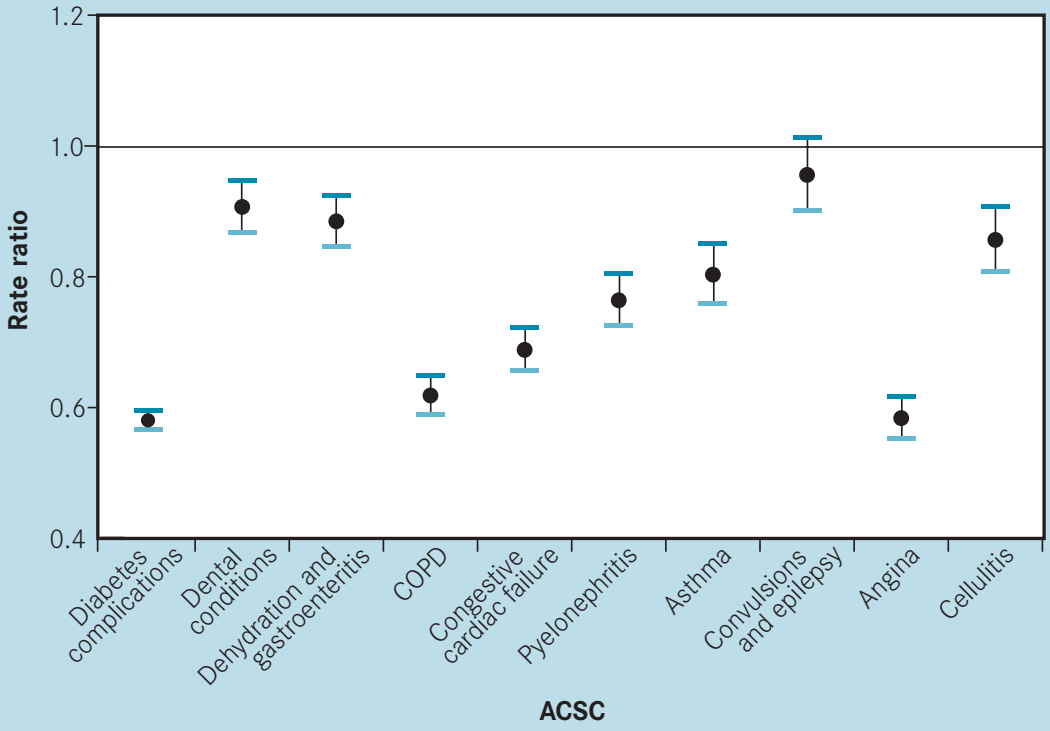
Top ten ACSCs, Eastern Metropolitan Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	7,101	6.57	6.41	6.72	8.53	60,578
Dental conditions	2,311	2.42	2.32	2.52	1.13	2,603
Dehydration and gastroenteritis	2,354	2.27	2.18	2.36	2.60	6,125
COPD	1,921	1.73	1.65	1.81	7.65	14,693
Congestive cardiac failure	1,941	1.65	1.58	1.72	7.58	14,710
Pyelonephritis	1,636	1.55	1.48	1.63	4.72	7,720
Asthma	1,349	1.47	1.40	1.55	2.54	3,427
Convulsions and epilepsy	1,351	1.42	1.34	1.50	3.22	4,352
Angina	1,489	1.33	1.26	1.40	2.29	3,407
Cellulitis	1,359	1.31	1.24	1.38	5.86	7,960

Note: CI = confidence interval.

Eastern Metropolitan Region

Top ten ACSCs admission rate ratios, Eastern Metropolitan Region (Victoria=1), 2003–04



Key findings

- There were 26,839 admissions for total ACSCs in 2003–04, with an average of 5.38 bed days.
- The admission rates for total ACSCs increased from 15.31 per 1,000 persons (15.06–15.56) in 1993–1994 to 25.03 per 1,000 persons (24.74–25.33) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 85.00 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs admissions were 5.50 in 2003–04.
- The admission rate ratios for the top ten ACSCs admissions were similar to, or significantly lower than, the Victorian averages in 2003–04.
- Convulsions and epilepsy accounted for the highest admission rate ratio, 0.96 (0.90–1.01), in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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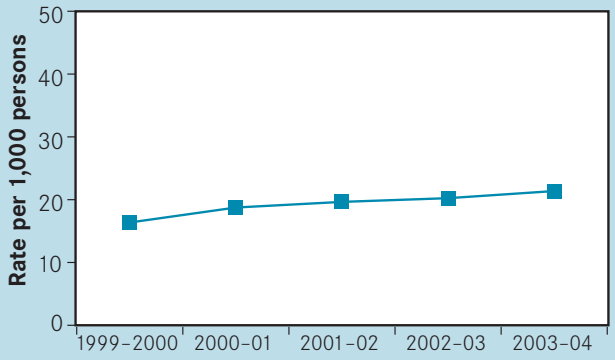
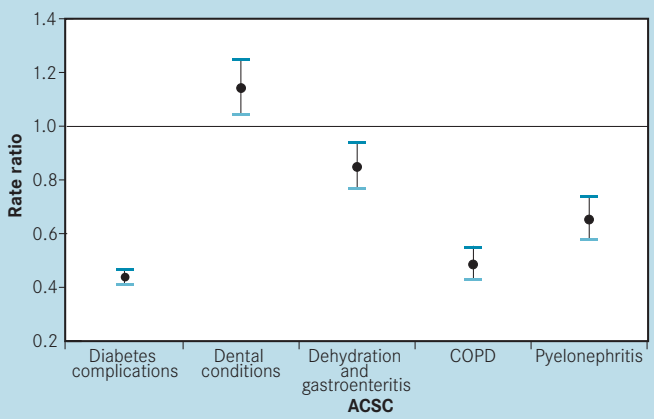
Boroondara Primary Care Partnership

ACSCs admission rates, Boroondara PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Boroondara PCP (Victoria=1), 2003–04



Top five ACSCs, Boroondara PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	955	4.95	4.65	5.28	8.79	8,397
Dental conditions	491	3.04	2.79	3.32	1.17	576
Dehydration and gastroenteritis	394	2.18	1.97	2.40	2.57	1,012
COPD	272	1.36	1.20	1.53	7.47	2,033
Pyelonephritis	261	1.33	1.17	1.50	5.26	1,373

Note: CI = confidence interval.

Key findings

- There were 4,050 admissions for total ACSCs in 2003–04, with an average of 5.46 bed days.
- The admission rates for total ACSCs increased from 16.37 per 1,000 persons (15.79–16.98) in 1999–2000 to 21.37 per 1,000 persons (20.72–22.05) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for dental conditions were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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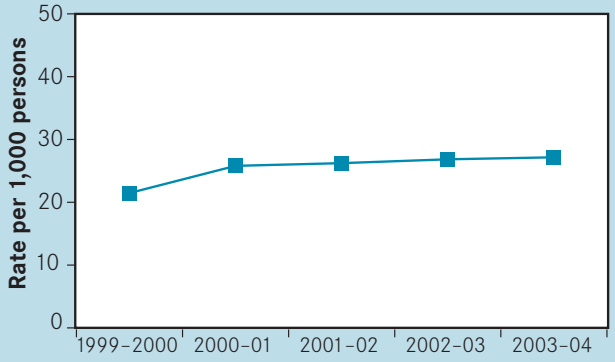
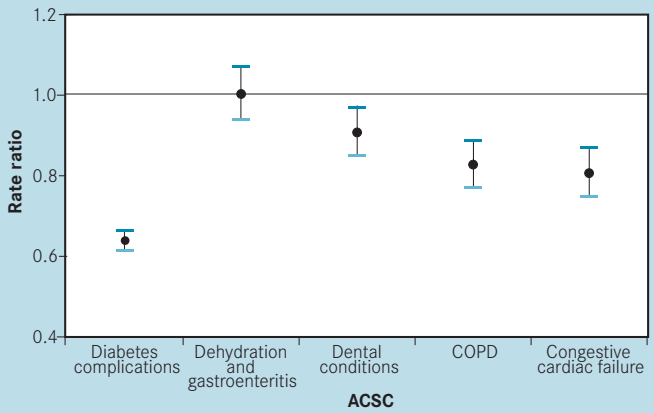
Outer East Primary Care Partnership

ACSCs admission rates, Outer East PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Outer East PCP (Victoria=1), 2003–04



Top five ACSCs, Outer East PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,599	7.23	6.96	7.51	8.42	21,884
Dehydration and gastroenteritis	975	2.57	2.42	2.74	2.33	2,275
Dental conditions	954	2.42	2.27	2.58	1.10	1,045
COPD	825	2.31	2.16	2.48	7.72	6,370
Congestive cardiac failure	701	1.93	1.79	2.08	6.88	4,820

Note: CI = confidence interval.

Key findings

- There were 10,488 admissions for total ACSCs in 2003–04, with an average of 5.15 bed days.
- The admission rates for total ACSCs increased from 21.47 per 1,000 persons (20.99–21.97) in 1999–2000 to 27.16 per 1,000 persons (26.64–27.69) in 2003–04.
- Diabetes complications were the leading cause of ACSCs admissions in 2003–04.
- The admission rate ratios for the top five ACSCs admissions were similar to or below the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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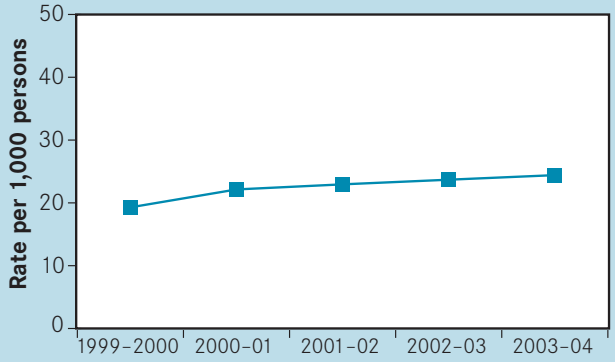
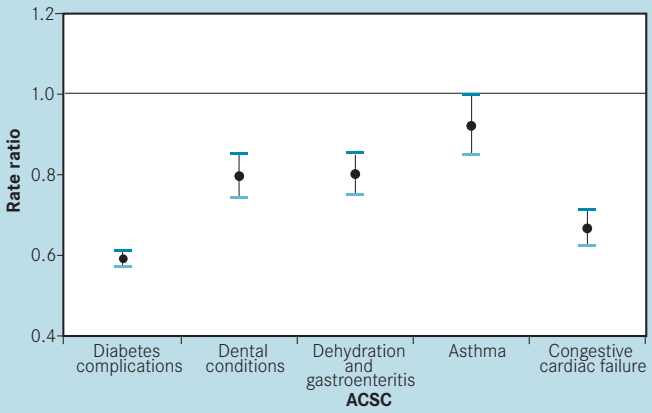
Central East Primary Care Partnership

ACSCs admission rates, Central East PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Central East PCP (Victoria=1), 2003–04



Top five ACSCs, Central East PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	3,547	6.69	6.47	6.91	8.54	30,297
Dental conditions	866	2.12	1.99	2.27	1.13	982
Dehydration and gastroenteritis	985	2.06	1.93	2.19	2.88	2,838
Asthma	630	1.69	1.56	1.83	2.42	1,522
Congestive cardiac failure	908	1.60	1.50	1.70	7.47	6,786

Note: CI = confidence interval.

Key findings

- There were 12,301 admissions for total ACSCs in 2003–04, with an average of 5.55 bed days.
- The admission rates for total ACSCs increased from 19.29 per 1,000 persons (18.89–19.70) in 1999–2000 to 24.42 per 1,000 persons (23.98–24.86) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The admission rate ratios for the top five ACSCs admissions were similar to or significantly lower than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

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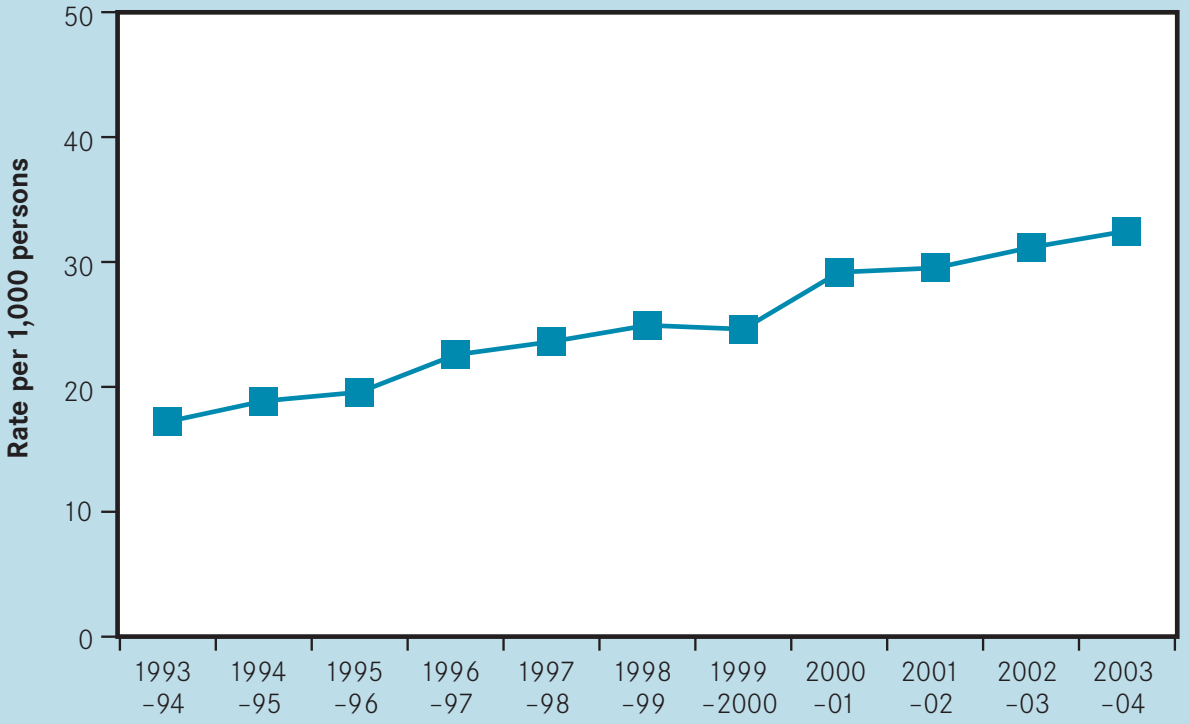
Southern Metropolitan Region

ACSCs admission rates, Southern Metropolitan Region, 1993–94 to 2003–04



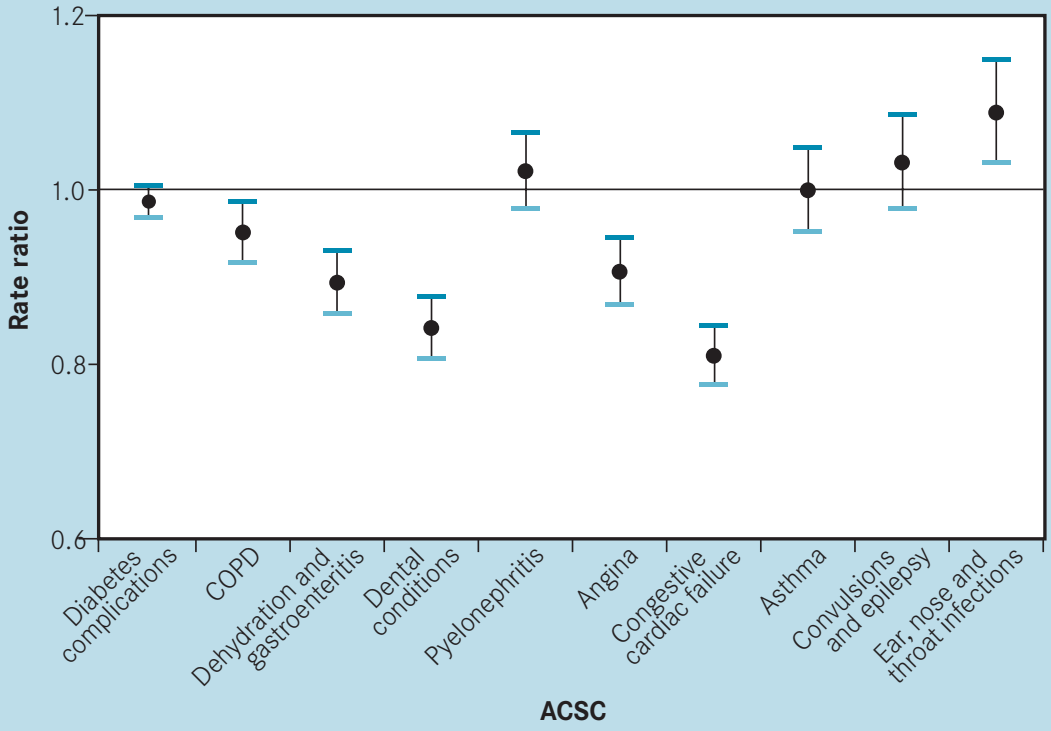
Top ten ACSCs, Southern Metropolitan Region, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	14,199	11.16	10.98	11.34	6.17	87,658
COPD	3,509	2.66	2.57	2.75	7.02	24,645
Dehydration and gastroenteritis	2,825	2.29	2.21	2.38	2.68	7,577
Dental conditions	2,577	2.24	2.16	2.33	1.20	3,103
Pyelonephritis	2,629	2.08	2.00	2.16	4.70	12,359
Angina	2,704	2.06	1.98	2.14	2.29	6,182
Congestive cardiac failure	2,727	1.94	1.87	2.01	7.44	20,302
Asthma	2,033	1.83	1.75	1.91	2.17	4,412
Convulsions and epilepsy	1,764	1.53	1.46	1.60	3.21	5,671
Ear, nose and throat infections	1,613	1.48	1.41	1.55	1.57	2,535

Note: CI = confidence interval.

Southern Metropolitan Region

Top ten ACSCs admission rate ratios, Southern Metropolitan Region (Victoria=1), 2003–04



Key findings

- There were 41,958 admissions for total ACSCs in 2003–04, with an average of 4.89 bed days.
- The admission rates for total ACSCs increased from 17.22 per 1,000 persons (16.97–17.46) in 1993–94 to 32.50 per 1,000 persons (32.17–32.79) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- The top ten ACSCs accounted for 87.18 per cent of total ACSCs admissions.
- Average bed days for the top ten ACSCs admissions were 4.77 in 2003–04.
- Ear, nose and throat infections accounted for the highest admission rate ratio, 1.09 (1.03–1.15), in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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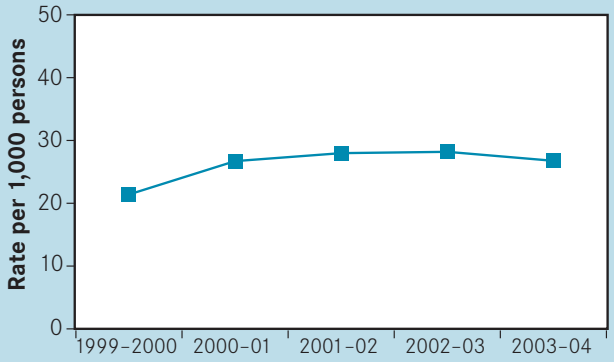
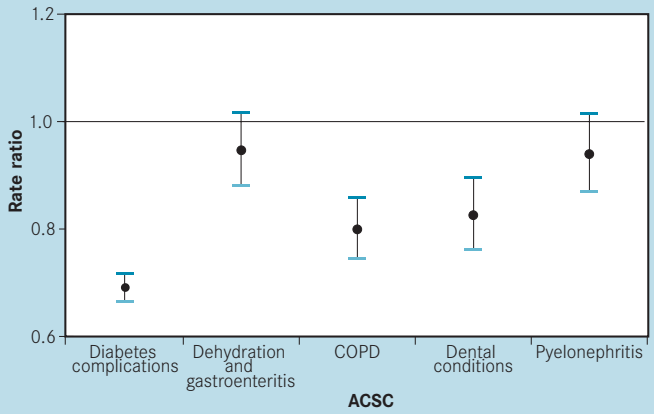
Inner South Primary Care Partnership

ACSCs admission rates, Inner South PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Inner South PCP (Victoria=1), 2003–04



Top five ACSCs, Inner South PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,762	7.82	7.53	8.11	8.76	24,198
Dehydration and gastroenteritis	815	2.43	2.27	2.60	2.45	1,994
COPD	810	2.23	2.09	2.39	6.92	5,608
Dental conditions	619	2.20	2.03	2.38	1.35	833
Pyelonephritis	674	1.91	1.77	2.06	5.11	3,445

Note: CI = confidence interval.

Key findings

- There were 9,374 admissions for total ACSCs in 2003–04, with an average of 5.80 bed days.
- The admission rates for total ACSCs increased from 21.40 per 1,000 persons (20.90–21.92) in 1999–2000 to 26.76 per 1,000 persons (26.21–27.32) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for three of the top five ACSCs admissions (diabetes complications, chronic obstructive pulmonary disease and dental conditions) were significantly lower than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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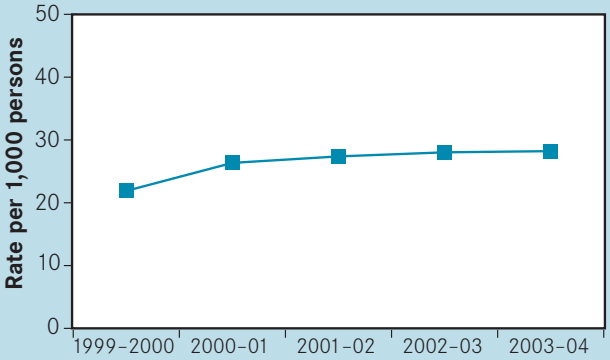
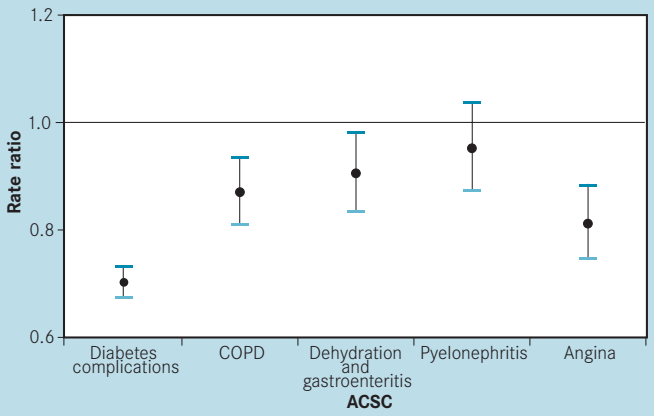
Kingston/Bayside Primary Care Partnership

ACSCs admission rates, Kingston/Bayside PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, Kingston/Bayside PCP (Victoria=1), 2003–04



Top five ACSCs, Kingston/Bayside PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,302	7.95	7.63	8.28	7.16	16,490
COPD	778	2.43	2.27	2.61	6.72	5,232
Dehydration and gastroenteritis	608	2.32	2.15	2.52	2.52	1,535
Pyelonephritis	548	1.93	1.78	2.10	5.15	2,823
Angina	574	1.85	1.70	2.00	2.47	1,417

Note: CI = confidence interval.

Key findings

- There were 8,065 admissions for total ACSCs in 2003–04, with an average of 5.11 bed days.
- The admission rates for total ACSCs increased from 21.89 per 1,000 persons (21.32–22.47) in 1999–2000 to 28.22 per 1,000 persons (27.60–28.86) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for the top five ACSCs admissions were similar to or below the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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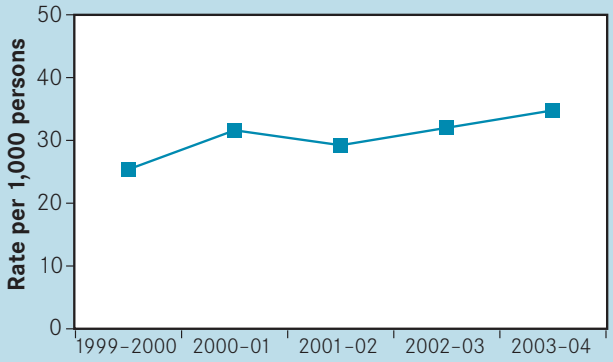
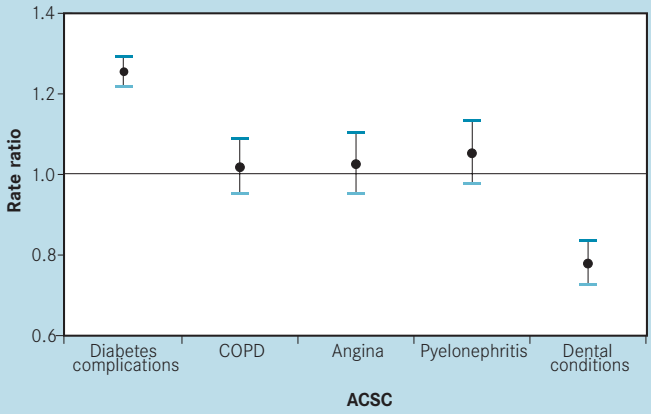
South East Primary Care Partnership

ACSCs admission rates, South East PCP, 1999–2000 to 2003–04



Top five ACSCs admission rate ratios, South East PCP (Victoria=1), 2003–04



Top five ACSCs, South East PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	4,704	14.19	13.79	14.61	5.43	25,550
COPD	901	2.84	2.66	3.04	7.09	6,385
Angina	770	2.33	2.17	2.50	2.33	1,795
Pyelonephritis	736	2.14	1.99	2.30	4.17	3,067
Dental conditions	821	2.08	1.94	2.22	1.12	916

Note: CI = confidence interval.

Key findings

- There were 12,528 admissions for total ACSCs in 2003–04, with an average of 4.52 bed days.
- The admission rates for total ACSCs increased from 25.39 per 1,000 persons (24.83–25.97) in 1999–2000 to 34.78 per 1,000 persons (34.17–35.41) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for diabetes complications were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

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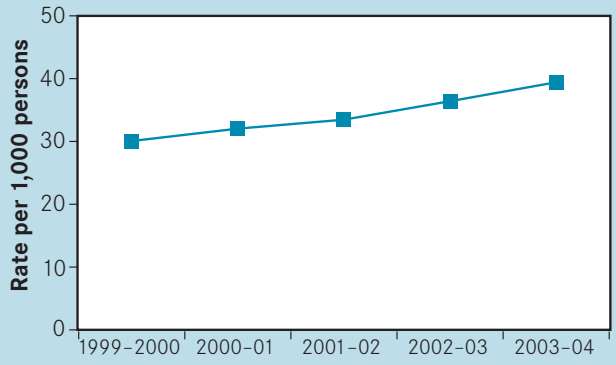
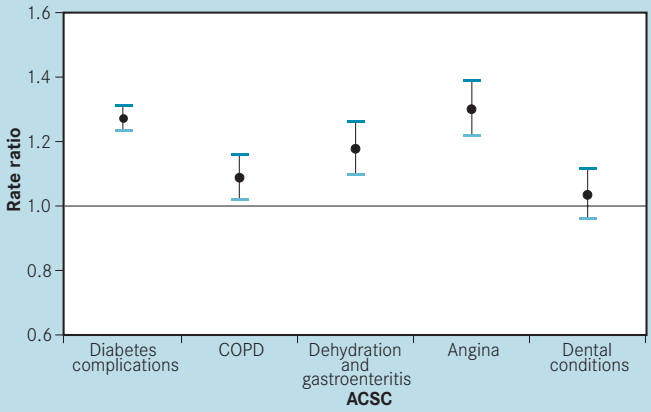
Frankston/Mornington Peninsula Primary Care Partnership

ACSCs admission rates, Frankston/ Mornington Peninsula PCP, 2003–04



Top five ACSCs admission rate ratios, Frankston/ Mornington Peninsula PCP (Victoria=1), 2003–04



Top five ACSCs, Frankston/Mornington Peninsula PCP, 2003–04

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	4,431	14.38	13.96	14.81	4.83	21,420
COPD	1,020	3.04	2.86	3.23	7.27	7,420
Dehydration and gastroenteritis	836	3.02	2.82	3.23	3.09	2,582
Angina	964	2.96	2.77	3.15	1.91	1,842
Dental conditions	721	2.76	2.56	2.97	1.14	824

Note: CI = confidence interval.

Key findings

- There were 11,991 admissions for total ACSCs in 2003–04, with an average of 4.41 bed days.
- The admission rates for total ACSCs increased from 30.07 per 1,000 persons (29.42–30.75) in 1999–2000 to 39.42 per 1,000 persons (38.71–40.14) in 2003–04.
- Diabetes complications were the leading cause of admissions in 2003–04.
- Admission rate ratios for most of the top five ACSCs admissions (except dental conditions) were significantly higher than the Victorian average in 2003–04.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

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Self-rated health status

In this chapter

Summary

- Based on the 2004 Victorian population health survey, 51.1 per cent of females aged 35–44 years and 46.8 per cent of males aged 18–24 years rated their health as excellent or very good.

Introduction

A variety of Australian Bureau of Statistics surveys have used self-reported health ratings. These surveys have included the 1989–90, 1995 and 2001 National Health Surveys and the 1997 National Survey of Mental Health and Wellbeing of Adults (ABS 1992, 1997, 1998, 2002). Respondents to the Victorian population health survey 2004 were asked whether they perceived their health status to be excellent, very good, good, fair or poor.

This measure of health status is simple and global. It has been increasingly used in studies that seek to understand the factors that contribute to the level of health achieved and health inequalities, including differences that occur by gender, race or ethnicity, education or income, disability and geographic location (Anderson et al 2001, Hennessy et al 2001, Kawachi et al 1999). Self-rated health assessments have been found to be a powerful predictor of future health care use and mortality, independent of other medical, behavioural or psychosocial risk factors (Idler and Benyami 1997, Miilunpalo et al 1997).

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Hennessy, C., Moriarty, DG., Zack, M., Scherr, P. and Brackbill, R., 1994, 'Measuring health–related quality of life for public health surveillance', in *Public health reports*, Volume 109, pp. 655–72.

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Miilunpalo, S., Vuori, I. and Oja, P., 1997, 'Self-rated health as a health measure: the predictive value of self-reported health status on the use of physician services and on mortality in the working age population', in *Journal of Clinical Epidemiology*, Volume 50, no 5, pp. 517–28.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004,* www.health.vic.gov.au/healthstatus/vphs.htm

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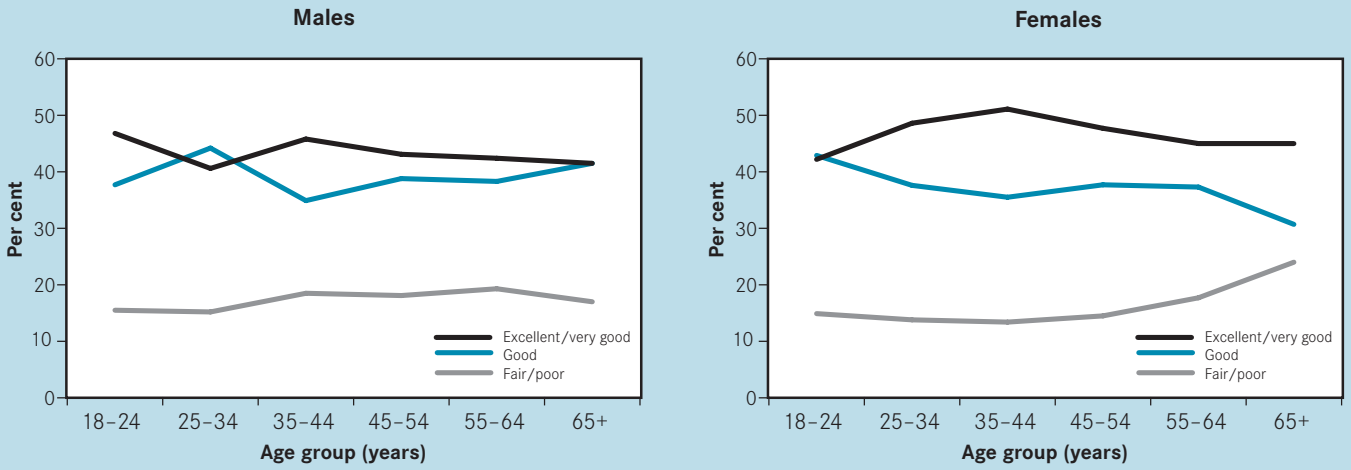
Self-rated health status

Self-rated health status, by age group, Victoria, 2004



Source: Department of Human Services, *Victorian population health survey*, 2004.

The proportion of males who reported their health as being fair or poor was similar across age groups, ranging from 15.2 per cent of those aged 25–34 years to 19.3 per cent of those aged 55–64 years.

The proportion of females who rated their health as fair or poor ranged from 13.4 per cent of those aged 35–44 years to 24.0 per cent of those aged 65 years or over.

Of females aged 35–44 years, 51.1 per cent rated their health as excellent or very good, as did 46.8 per cent of males aged 18–24 years.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004,* www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Health-related behaviours

This section presents information on risk factors and health-related behaviours for the selected public health indicators of smoking, nutrition, alcohol and physical inactivity among adults. These indicators are based on the 2004 Victorian population health survey.

Smoking

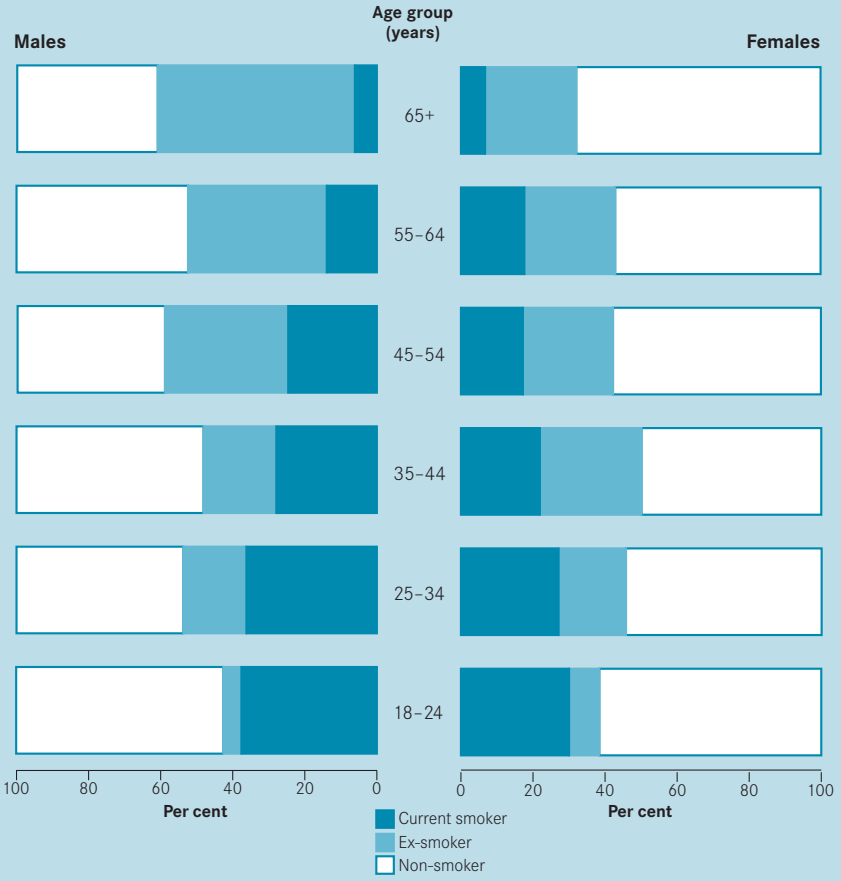
In this chapter

Summary

- Tobacco smoking accounted for 8.2 per cent of total disability-adjusted life years (DALYs) lost for Victoria in 2001.
- Of all persons aged 18 years or over, 52.9 per cent of males and 42.2 per cent of females in 2004 were found to have smoked tobacco products at some point in their lives.
- Approximately 25.0 per cent of males and 19.7 per cent of females in 2004 identified themselves as current smokers (that is, they reported smoking daily or occasionally).

Smoking status

Smoking status, persons aged 18 years or over, by age group and sex, Victoria, 2004



Tobacco smoking accounts for 8.2 per cent of total disability-adjusted life years (DALYs) for Victoria. Smoking tobacco is a major risk factor for coronary heart disease, stroke, peripheral vascular disease, numerous cancers and a range of other diseases and conditions. Smoking is also of concern during pregnancy, because a strong effect on foetal growth has been observed.

Of all persons aged 18 years or over, 52.9 per cent of males and 42.2 per cent of females were found to have smoked tobacco products at some point in their lives. The proportion of males who had smoked at some point in their lives ranged from 42.5 per cent of those aged 18–24 years, to 60.8 per cent of those aged 65 years or over. The proportion of females who had ever smoked was highest (50.1 per cent) for the age group 35–44 years and lowest (32.0 per cent) for those in the age group 65 years or over. These proportions were similar for males and females up to the age group 35–44 years. Beyond 45 years of age, the proportion of males who had ever smoked was significantly greater than the proportion of females who had ever smoked.

Approximately 25.0 per cent of males and 19.7 per cent of females identified themselves as current smokers, that is, they reported smoking daily or occasionally. The proportions of males and females who were current smokers were greatest in the 18–24 year age group (30.0 per cent and 37.6 per cent respectively). There were no significant differences (by age group) in the proportions of males and females who were classified as current smokers.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004* and *Victorian burden of disease study 2001,* www.health.vic.gov.au/healthstatus

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Nutrition

In this chapter

Summary

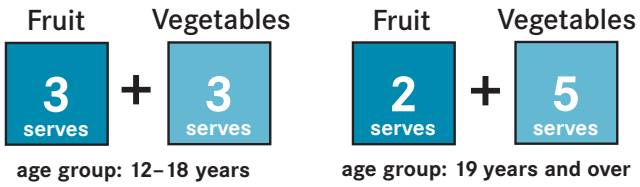
- Three per cent of total DALYs were attributed to inadequate fruit and vegetable intake (less than 600 grams per day) in 2001.
- Of all persons aged 18 years or over, 7.0 per cent usually consumed five or more serves of vegetables each day in 2004.
- A greater proportion of females than males consumed the recommended number of daily serves of vegetables (10.1 per cent and 3.6 per cent respectively) in 2004.
- Older persons were found to be the largest consumers of vegetables, with 14.9 per cent of females aged 45–54 years and 5.3 per cent of males aged 65 years or over consuming five or more serves daily in 2004.

Fruit and vegetable guidelines

Evidence exists about the protective role of plant foods in a range of health problems including coronary heart disease, hypertension, some forms of cancer (including colon, lung and gastrointestinal cancers), obesity, and non-insulin dependent diabetes. Inadequate consumption of fruit and vegetables has been identified as a risk factor in the development of a number of chronic diseases including coronary heart disease, stroke, and many types of cancer including cancers of the mouth, pharynx, oesophagus, stomach and lungs. The 2001 Victorian burden of disease study estimated that 3.3 per cent of total disability-adjusted life years (DALYs) can be attributed to inadequate fruit and vegetable intake (less than 600 grams per day). This contribution exceeds that made by alcohol (3.1 per cent), illicit drugs (1.5 per cent), unsafe sex (0.4 per cent) and occupational hazards and exposures (1.5 per cent) (Department of Human Services, 2005).

Evidence regarding the protective effect of vegetables is stronger than that for the protective effect of fruit, although this may be due to the limited range of fruit available in some populations and/or the greater amount of vegetables in most diets. Current Australian guidelines recommend that all persons aged 19 years or over (excluding pregnant and lactating females) consume at least 300 grams (two serves) of fruit and 300 grams (five serves) of vegetables (including legumes) each day to meet their need for essential nutrients. It is recommended that individuals aged 12–18 years consume at least three serves of fruit and three serves of vegetables every day.

National Health and Medical Research Council's recommended daily intake of fruit and vegetables



age group: 12–18 years **age group: 19 years and over**

Note: Excluding pregnant and breast feeding women

References

Department of Human Services (Health Surveillance and Evaluation Section, Public Health Group), 2005, *Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne.

National Health and Medical Research Council, 2000, *Dietary guidelines for Australian adults*, Canberra.

National Health and Medical Research Council, 2000, *Dietary guidelines for children and adolescents in Australia incorporating the infant feeding guidelines for health workers,* Canberra.

For more information

Department of Human Services,
www.goforyourlife.vic.gov.au

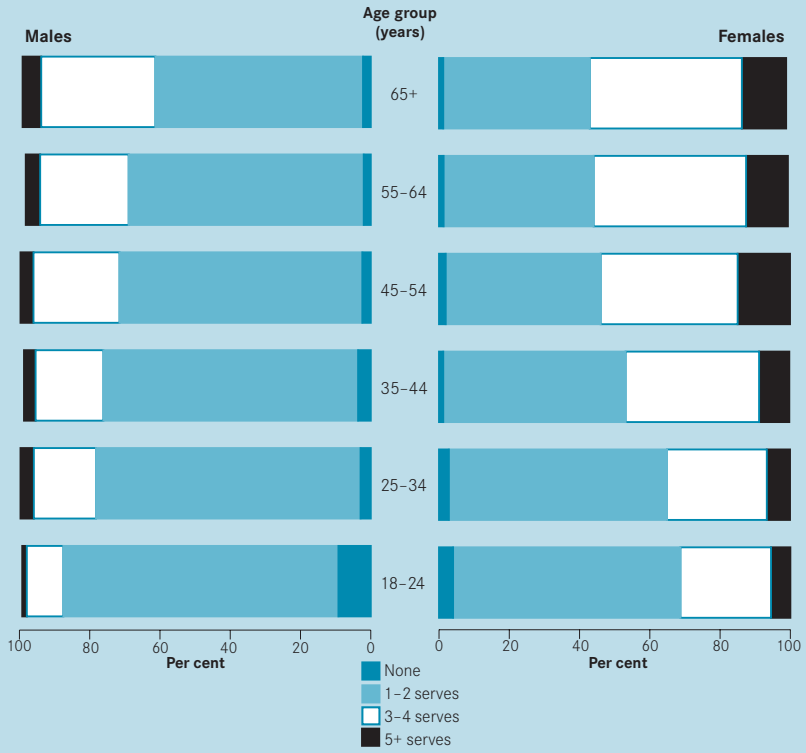
Daily vegetable consumption

Daily consumption of vegetables, persons aged 18 years or over, by sex, Victoria, 2004

	Males		Females		Persons	
Serves of vegetables eaten each day*	%	SE (%)	%	SE (%)	%	SE (%)
No serves	3.6	0.4	2.0	0.3	2.7	0.3
One or two serves	70.4	1.1	51.0	1.0	60.4	0.8
Three or four serves	21.6	1.0	36.5	0.9	29.2	0.7
Five or more serves	3.6	0.4	10.1	0.6	7.0	0.4

Note: * A 'serve' is half a cup of cooked vegetables or a cup of salad vegetables.
SE = standard error.
Source: Department of Human Services, *Victorian population health survey 2004*.

Daily vegetable consumption, persons aged 18 years or over, by age group and sex, Victoria, 2004



Of all persons aged 18 years or over, 7.0 per cent usually consumed five or more serves of vegetables each day. A greater proportion of females than males consumed the recommended number of daily serves of vegetables (10.1 per cent and 3.6 per cent respectively). In 2004, significantly more than half (60.4 per cent) of the adults in Victoria consumed only one or two serves of vegetables daily, with a higher proportion of males (70.4 per cent) than females (51.0 per cent) doing so. A higher proportion of males than females (3.6 per cent and 2.7 per cent respectively) did not consume any vegetables.

Older persons were found to be the largest consumers of vegetables, with 14.9 per cent of females aged 45–54 years and 5.3 per cent of males aged 65 years or over consuming five or more serves daily. A further 43.3 per cent of females and 32.5 per cent of males in this age group consumed three or four serves of vegetables each day. Males aged 18–24 years were found to be the least likely to consume five or more serves of vegetables daily, with only 1.3 per cent doing so. Among females, approximately 5.5 per cent of those aged 18–24 years reported eating the recommended quantity of vegetables each day.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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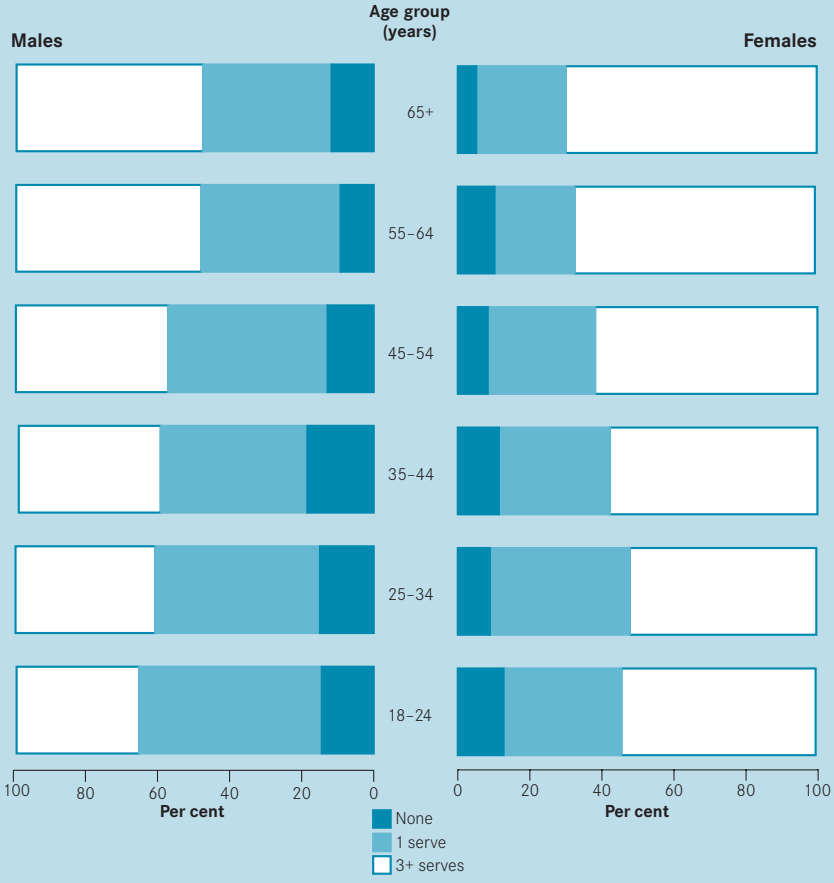
Daily fruit consumption

Daily consumption of fruit, persons aged 18 years or over, by sex, Victoria, 2004

Serves of fruit eaten each day*	Males %	Males SE (%)	Females %	Females SE (%)	Persons %	Persons SE (%)
No serves	13.9	0.8	9.2	0.6	11.5	0.5
One serve	42.5	1.2	30.2	0.9	36.2	0.8
Two or more serves	42.6	1.2	60.2	1.0	51.6	0.8

Note: * A 'serve' is one medium piece or two small pieces of fruit or one cup of diced pieces. SE = standard error.
Source: Department of Human Services, *Victorian population health survey 2004*.

Daily fruit consumption, persons aged 18 years or over, by age group and sex, Victoria, 2004



Approximately 51.6 per cent of persons consumed two or more serves of fruit on a usual day. The proportion of adults who consumed the recommended level of fruit consumption each day was greater among females (60.2 per cent) than males (42.6 per cent). This finding applied in every age group.

The consumption of fruit equal to the recommended two serves or more per day was highest (69.7 per cent) among females aged 65 years or over. Among males, the same age group was also most likely to consume the recommended level, with 51.8 per cent having two or more serves each day. The proportion of males who did not consume fruit was highest (18.4 per cent) in the age group 35–44 years. Among females, the proportion was highest in the age group 18–24 years (12.7 per cent).

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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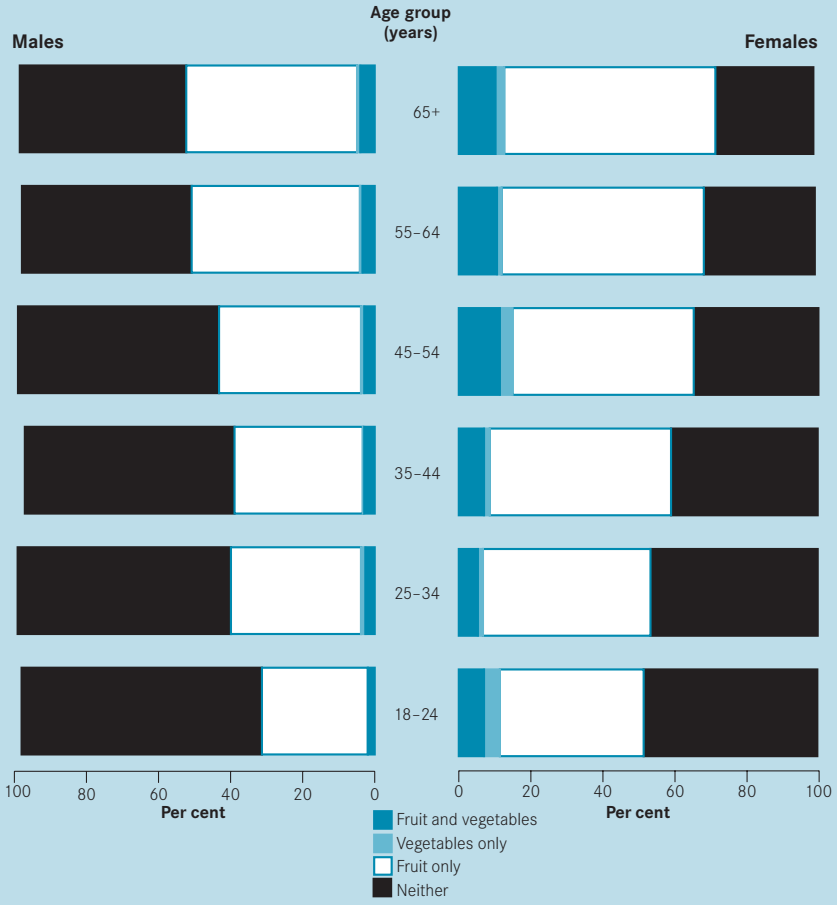
Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Recommended daily serves of fruit and vegetables

Recommended daily serves of fruit and vegetables, persons aged 18 years or over, by age group and sex, Victoria, 2004



The proportion of females whose daily consumption equalled or exceeded the recommended number of serves of both fruit and vegetables ranged from a minimum of 5.3 per cent among those aged 25–34 years to 11.4 per cent among those aged 45–54 years. For males, the proportion that consumed the recommended daily intake of fruit and vegetables increased with age, ranging from a low of 1.9 per cent in those aged 18–24, to 4.0 per cent among older males aged 65 years or over. The extent of compliance with the recommended daily levels of fruit and vegetables consumption was lower among males compared with females in all age groups.

The proportion of adults who did not satisfy the recommended daily levels of intake for fruit or vegetables ranged from a maximum of 66.7 per cent among males aged 18–24 years to a minimum of 27.2 per cent among females aged 65 years or over.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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Alcohol consumption

In this chapter

Summary

- The proportion of adults who consumed alcohol at levels above the threshold for short term alcohol harm at least weekly was greatest in the 18–24 years age group for both sexes in 2004.
- More than 5 per cent of males in the age groups 18–24 years and 55–64 years consumed alcohol at levels considered to be risky or high risk in terms of long term health consequences in 2004.

Alcohol consumption guidelines

At low or moderate levels, the consumption of alcohol yields health benefits for some people. In particular, it may help reduce the risk of heart disease from middle age. Regular excessive consumption of alcohol over time, however, places people at increased risk of chronic ill health and premature death, and episodes of heavy drinking may place the drinker (and others) at risk of injury or death. The consequences of heavy regular use of alcohol may include cirrhosis of the liver, cognitive impairment, heart and blood disorders, ulcers, cancers, and damage to the pancreas. Intoxication, and acute alcohol-related problems, includes violence, risky behaviour, road trauma and injury. Significant psychosocial and economic consequences also arise from such patterns of drinking, not only for the individuals concerned but also for their families and the wider community.

Excessive alcohol consumption is estimated to account for 3.1 per cent of the total burden of disease for Victoria. Allowing for the beneficial effects of low to moderate levels of alcohol, the net harm associated with alcohol consumption accounts for around 1.4 per cent of the total burden of disease in 2001.

The new Australian alcohol guidelines emphasise patterns of drinking as opposed to levels of consumption (the average amount consumed). The concept of 'patterns of drinking' refers to aspects of drinking behaviour other than the level of drinking including the context or circumstances of drinking (when, where and with whom the drinking behaviour occurs); the types of drink consumed; the number of heavy drinking occasions and their characteristics; and the norms associated with drinking behaviour. Two main patterns of drinking have been identified as creating a risk to health – excessive alcohol intake on a particular occasion, and consistent high-level intake over months and years.

The guidelines specify the risks (for various drinking levels) for males and females of average or larger than average body size (60 kilograms for males and 50 kilograms for females) in the short term and the long term for the whole population. Risk is categorised as low (a level of drinking at which the risk of harm is minimal and there are possible benefits for some of the population), risky (a level of drinking at which the risk of harm outweighs any possible benefit) and high (a level of drinking at which there is substantial risk of serious harm, above which risk increases rapidly).

References

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), 2005, *Victorian burden of disease study: mortality and morbidity in 2001,* Melbourne.

National Health and Medical Research Council, 2001, *Australian alcohol guidelines: health risks and benefits*, Canberra.

Short term risk guidelines

Australian alcohol guidelines for short term drinking and the levels of risk to health

	Risk of harm in the short term*		
	Low risk	Risky	High risk
Males On any one day	Up to six drinks on any one day; no more than three days per week	Seven to ten drinks on any one day	Eleven or more drinks on any one day
Females On any one day	Up to four drinks on any one day; no more than three days per week	Five to six drinks on any one day	Seven or more drinks on any one day

Note: *Based on a standard drink containing 10 grams or 12.5 millilitres of alcohol.
Source: National Health and Medical Research Council, 2001, *Australian alcohol guidelines: health risks and benefits*, Canberra.

For the purpose of determining the potential for alcohol-related harm, the short term risk is defined in terms of the number of standard drinks consumed per drinking occasion. The guidelines for the whole population indicate that males who drink up to six standard drinks and females who drink up to four standard drinks are at low risk of alcohol-related harm in the short term. Males who drink 11 or more drinks when they consume alcohol and females who consume seven or more drinks are categorised as being at high risk. Between these levels, alcohol consumption behaviour is classified as risky in the short term. In specifying these short term risks, it is assumed that heavier drinking days occur on a maximum of three occasions per week, and remain within the levels of long term harm.

Long term risk guidelines

Australian alcohol guidelines for long term drinking and the level of risk to health

	Risk of harm in the long term*		
	Low risk	Risky	High risk
Males			
On an average day	Up to four drinks per day	Five to six drinks per day	Seven or more drinks per day
Overall weekly level	Up to 28 per week	29–42 per week	43 or more per week
Females			
On an average day	Up to two drinks per day	Three to four drinks per day	Five or more drinks per day
Overall weekly level	Up to 14 per week	15–28 per week	29 or more per week

Note: *Based on a standard drink containing ten grams or 12.5 millilitres of alcohol.
Source: National Health and Medical Research Council, 2001, ***Australian alcohol guidelines: health risks and benefits***, Canberra.

Long term risk of poor health outcomes due to alcohol consumption is associated with regular daily patterns of drinking, defined in terms of the amount of alcohol typically consumed each week. The Australian alcohol guidelines indicate that males are at high risk of long term alcohol-related health problems if they consume seven or more drinks on an average day, or an overall weekly level of more than 43 standard drinks per week. For females, high long term risk is equated with the consumption of five or more standard drinks on an average day, or more than 29 drinks per week. Alcohol consumption is classified as risky in the long term if males consume five to six drinks on an average day (29–42 per week) and if females consume more than three to four drinks daily (15–28 per week).

Short term risk from alcohol consumption

Frequency of short term risk levels due to alcohol consumption, persons aged 18 years or over, by age group and sex, Victoria, 2004

	Abstainer		Low risk		Risky and high risk					
					At least yearly		At least monthly		At least weekly	
Age group (years)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Males										
18–24	8.8	2.2	19.4	3.2	18.9	3.3	21.9	3.2	29.3	3.5
25–34	8.0	1.6	17.7	2.4	28.6	2.7	21.2	2.5	22.6	2.6
35–44	10.3	1.9	28.2	2.4	30.1	2.4	14.8	1.8	15.9	2.0
45–54	11.5	1.7	34.0	2.6	27.1	2.4	14.3	1.9	12.5	1.7
55–64	11.8	2.0	41.4	3.1	18.4	2.3	14.1	2.2	13.2	2.1
65+	22.4	2.3	49.3	2.7	18.4	2.2	3.9	0.9	5.6	1.1
Total	**11.9**	**0.8**	**30.9**	**1.1**	**24.4**	**1.1**	**15.1**	**0.9**	**16.4**	**0.9**
Females										
18–24	13.9	2.3	19.2	2.6	28.3	3.1	21.6	2.6	16.2	2.4
25–34	17.3	1.7	28.5	2.0	29.5	2.0	14.6	1.5	10.1	1.3
35–44	14.6	1.5	37.0	2.0	28.0	1.9	12.4	1.3	7.3	1.1
45–54	19.3	1.9	39.4	2.2	25.3	2.0	8.4	1.2	6.8	1.1
55–64	26.6	2.4	47.9	2.6	16.6	1.9	4.7	0.9	3.9	1.0
65+	39.4	2.2	50.8	2.3	6.9	1.2	1.3	0.4	1.1	0.4
Total	**22.0**	**0.8**	**37.6**	**0.9**	**22.5**	**0.8**	**10.2**	**0.6**	**7.2**	**0.5**

Note: Risk levels are defined in terms of the number of standard drinks per drinking occasion, subject to certain qualifications for specific population groups, and are different for males and females. For males, the risk categories are: low risk (less than six); risky (seven to 10); and high risk (11 or more). For females, the corresponding thresholds are: low risk (up to four); risky (five to six); and high risk (seven or more). Abstainers includes recent and long term (that is, 12 months or longer) abstainers. The table does not include the proportion of adults for whom incomplete information was available.

SE = standard error.

Source: Department of Human Services, *Victorian population health survey 2004*.

A significantly higher proportion of males than females (16.4 per cent and 7.2 per cent respectively) were categorised as consuming alcohol at risky or high risk levels at least weekly. The proportion of adults who consumed alcohol at levels above the threshold for short term alcohol harm at least weekly was greatest in the age group 18–24 years for both sexes. Within this age group, a significantly higher proportion of males (29.3 per cent) than females (16.3 per cent) reported drinking more alcohol than recommended on a given occasion at least weekly. For the age group 65 years or over, 5.6 per cent of males and 1.1 per cent of females reported drinking alcohol at risky or high risk levels at least weekly.

The proportion of males who drank alcohol at above short term risk levels at least yearly ranged from 30.1 per cent in the age group 35–44 years to 18.4 per cent of those aged 65 years or over. Among females, 29.5 per cent of those aged 25–34 years reported drinking above the recommended levels on at least one occasion during the year. The proportion of females aged 65 years or over who drank at short term risky or high risk levels at least yearly was 6.9 per cent.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Long term risk from alcohol consumption

Long term risk of alcohol related harm, persons aged 18 years or over, by age group and sex, Victoria, 2004

Age group (years)	Abstainer		Low risk		Risky		High risk	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Males								
18–24	8.8	2.2	84.0	2.9	3.9	1.6	2.1	1.2
25–34	8.0	1.6	85.5	2.1	3.5	1.1	0.7	0.3
35–44	10.3	1.9	84.3	2.1	2.6	0.7	1.7	0.6
45–54	11.5	1.7	83.5	1.9	2.6	0.7	1.8	0.6
55–64	11.8	2.0	79.9	2.5	3.6	1.1	3.2	1.3
65+	22.4	2.3	72.8	2.4	2.5	0.7	2.0	0.8
Total	**11.9**	**0.8**	**82.0**	**0.9**	**3.1**	**0.4**	**1.8**	**0.3**
Females								
18–24	13.9	2.3	80.2	2.6	2.9	1.1	1.5	0.7
25–34	17.3	1.7	79.6	1.8	2.5	0.7	0.4	0.3
35–44	14.6	1.5	81.5	1.6	2.3	0.6	0.6	0.3
45–54	19.3	1.9	77.9	2.0	1.5	0.5	0.7	0.4
55–64	26.6	2.4	70.8	2.4	1.8	0.7	0.4	0.2
65+	39.4	2.2	58.1	2.2	1.7	0.6	0.5	0.3
Total	**22.0**	**0.8**	**74.6**	**0.9**	**2.1**	**0.3**	**0.7**	**0.1**

Note: Risk levels are defined in terms of the number of standard drinks per drinking occasion, subject to certain qualifications for specific population groups, and are different for males and females. For males, the risk categories are: low risk (up to 28 standard drinks per week); risky (29–42 drinks per week); and high risk (43 or more drinks per week). For females, the corresponding thresholds are: low risk (up to 14 drinks per week); risky (15–28 drinks per week); and high risk (29 or more drinks per week). Abstainers includes recent and long term (that is, 12 months or longer) abstainers. The table does not include the proportion of adults for whom incomplete information was available.

SE = standard error.

Source: Department of Human Services, *Victorian population health survey 2004*.

The quantity/frequency method is used to estimate the proportion of the population drinking at risky or high risk long term levels. This method combines the data on how often respondents usually had an alcoholic drink of any kind with data on the number of standard drinks that respondents usually had on a day when consuming an alcoholic drink.

The proportion of males who reported consuming alcohol at levels associated with a high long term risk was greatest (3.2 per cent) in the age group 55–64 years. Almost 4 per cent of males aged 18–24 years reported consuming alcohol at levels considered risky to health in the long term. More than 5 per cent of males in the age groups 18–24 years and 55–64 years engaged in drinking alcohol at levels considered to be risky or high risk in terms of long term health consequences.

Under 2 per cent of females (1.5 per cent) aged 18–24 years reported drinking at levels associated with a high long term health risk. The proportion of females who had 29 or more drinks per week was less than 1 per cent for females aged 25 years or over. The proportion of females who drank alcohol at a risky level (15–28 drinks per week) was greatest (2.9 per cent) for the age group 18–24 years.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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Physical activity/inactivity

In this chapter

Summary

- Seven per cent of persons aged 18 years or over did not undertake any physical activity during the week before the survey in 2004.
- The proportion of persons reporting no physical activity was greatest in the oldest age groups, with 13.1 per cent of those aged 65 years or over not undertaking any moderate-intensity or vigorous physical activity in the previous week.
- Overall, 58.6 per cent of males and 55.1 per cent of females attained the threshold for physical activity (to provide health benefits) as per the national guidelines.
- The proportions of males and females who were sufficiently active on most days of the week were similar for most age groups.
- In 2004, similar proportions of males (14.3 per cent) and females (14.7 per cent) were classified as obese, while 41.7 per cent of males and 23.3 per cent of females were classified as overweight.
- The proportion of males categorised as either overweight or obese ranged from 28.8 per cent of those aged 18–24 years, to 68.6 per cent of those aged 45–54 years.
- The proportion of females categorised as overweight or obese ranged from 16.6 per cent of those aged 18–24 years, to 56.5 per cent of those aged 55–64 years.

Physical activity guidelines

Physical inactivity is a major modifiable risk factor in terms of reducing the mortality and morbidity rates of many chronic diseases. In particular, lack of participation in physical activity is increasingly recognised as an independent risk factor for cardiovascular disease. It is also associated with risk factors such as high blood cholesterol levels, high blood pressure and being overweight or obese.

The level of health benefit achieved from physical activity partly depends on the intensity of the activity. In general, participation in moderate-intensity activities (at least) is required to obtain a health benefit from physical activity. Accruing 150 minutes of (at least) moderate-intensity physical activity (such as brisk walking) over one week, is believed to be sufficient to confer health benefits and is the recommended threshold of physical activity according to national physical activity guidelines (1999). For those who achieve an adequate baseline level of fitness, extra health benefits may be gained by undertaking at least 30 minutes of regular vigorous exercise on three to four days per week.

National physical activity guidelines for Australians

The guidelines refer to the minimum levels of physical activity required for good health. They are not intended for high-level fitness or sports training. Try to carry out all guidelines and for best results combine an active lifestyle with healthy eating.

1 **Think of movement as an opportunity, not an inconvenience.** Any form of movement of the body should be seen as an opportunity for improving health, not as time-wasting inconvenience.

2 **Be active every day in as many ways as you can.** Make a habit of walking or cycling instead of using the car, or do things yourself instead of using labour-saving machines.

3 **Put together at least 30 minutes of moderate intensity physical activity on most, preferably all, days.** Moderate-intensity activity includes things such as a brisk walk or cycling. Combine short sessions of different activities of around 10–15 minutes each to a total of 30 minutes or more. The 30 minutes total need not be continuous.

4 **If you can, also enjoy some regular, vigorous exercise for extra health and fitness.** Vigorous exercise makes you 'huff and puff'. For best results, this should be added to the above guidelines on 3–4 days a week for 30 minutes or more each time.

The measure 'sufficient time and sessions' is the preferred risk indicator for measuring participation in a sufficient level of health-enhancing physical activity at a population level. Consistent with guideline 3, the 'sufficient time and sessions' definition of physical activity requires that an individual accumulate at least 150 minutes of at least moderate physical activity regularly. The 'sufficient' time element of physical activity is calculated by adding the minutes of walking and the minutes of moderate-intensity activity, plus two times the minutes of vigorous activity (that is, the minutes of vigorous intensity activity are weighted by a factor of two).

Given this definition, a person is classified as being 'sedentary' if they report no minutes of physical activity for the relevant time period. 'Insufficient' physical activity is defined as some reported physical activity within the specified time period, but either not spending enough time participating in physical activity (that is, less than150 minutes) or undertaking fewer than five sessions of physical activity per week. Individuals who satisfy the requirements with respect to both the amount of time and the number of sessions are classified as doing 'sufficient' physical activity.

For more information

Australian Department of Health and Aged Care, 1999, *National physical activity guidelines for Australians*, Canberra, www.health.gov.au/internet/wcms/Publishing.nsf/Content/phd-physical-activity-adults-pdf-cnt.htm

Department of Human Services, www.goforyourlife.vic.gov.au

Sports and Recreation Victoria, Department for Victorian Communities, www.sport.vic.gov.au

Types of physical activity

Types of physical activity undertaken in the previous week, persons aged 18 years or over, by sex, Victoria, 2004

	Males		Females		Persons	
Type of physical activity	**%**	**SE(%)**	**%**	**SE(%)**	**%**	**SE(%)**
No physical activity	6.2	0.6	7.7	0.6	7.0	0.4
Walking only*	25.2	1.1	23.9	0.8	24.5	0.7
Vigorous activity only**	8.8	0.7	7.8	0.5	8.3	0.4
Walking and vigorous activity**	57.3	1.2	58.4	1.0	57.9	0.8

Note: * Walking for a minimum of ten minutes is categorised as a moderate-intensity physical activity. ** Includes vigorous household chores (excluding gardening) and vigorous 'other' activities (for example, tennis, jogging, cycling and'keep-fit' exercises).
SE = standard error.
Source: Department of Human Services, *Victorian population health survey 2004.*

Information was collected on three types of physical activity– time spent walking (for more than ten minutes at a time) for recreation, exercise or to get to and from places; time spent doing vigorous household chores (excluding gardening); and time spent doing vigorous activities other than household chores and gardening (for example, tennis, jogging, cycling and 'keep-fit' exercises). Data were collected on the number of sessions and the duration of each type of physical activity.

Seven per cent of persons aged 18 years or over did not undertake any physical activity during the week before the survey. Among both males and females who were physically active, walking was the most prevalent type of physical activity undertaken during the previous week, with 23.9 per cent of females and 25.2 per cent of males indicating that this was their only form of physical activity. A further 57.3 per cent of males and 58.4 per cent of females participated in both walking and some form of vigorous activity.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Levels of physical activity

Adequacy of physical activity undertaken in the previous week, persons aged 18 years or over, by age group, Victoria, 2004

Age group (years)	Sedentary %	Sedentary SE(%)	Insufficient time and/or sessions %	Insufficient time and/or sessions SE(%)	Sufficient time and sessions %	Sufficient time and sessions SE(%)
Males						
18–24	1.7	1.0	29.6	3.7	64.9	3.8
25–34	3.1	1.0	29.6	2.8	60.8	3.0
35–44	5.9	1.4	30.5	2.5	58.0	2.7
45–54	8.1	1.5	30.6	2.6	57.7	2.7
55–64	8.6	1.7	29.5	2.8	58.5	3.0
65+	10.2	1.7	31.4	2.5	52.1	2.7
Total	**6.2**	**0.6**	**30.2**	**1.1**	**58.6**	**1.2**
Females						
18–24	3.6	1.3	34.6	3.2	58.3	3.3
25–34	4.9	1.1	28.2	1.9	63.3	2.1
35–44	4.5	0.8	31.4	2.0	59.6	2.0
45–54	6.6	1.4	29.5	2.0	58.1	2.3
55–64	10.7	1.7	34.3	2.5	49.0	2.6
65+	15.4	1.7	35.2	2.1	40.9	2.2
Total	**7.7**	**0.6**	**31.9**	**0.9**	**55.1**	**1.0**
Persons						
18–24	2.7	0.8	32.1	2.5	61.6	2.5
25–34	4.0	0.7	28.9	1.7	62.1	1.8
35–44	5.2	0.8	31.0	1.6	58.8	1.7
45–54	7.3	1.0	30.9	1.6	57.9	1.8
55–64	9.6	1.2	31.9	1.9	53.7	2.0
65+	13.1	1.2	33.5	1.6	45.8	1.7
Total	**7.0**	**0.4**	**31.1**	**0.7**	**56.8**	**0.8**

Note: Sufficient physical activity is defined as participating in 50 or more minutes of at least moderate-intensity physical activity over five or more sessions per week. Physical activity is classified as 'insufficent' if fewer than 50 minutes of activity are accumulated and/or fewer than five sessions are undertaken.
SE = standard error.
Source: Department of Human Services, *Victorian population health survey 2004*.

The proportion of persons reporting no physical activity was greatest in the oldest age groups, with 13.1 per cent of those aged 65 years or over not undertaking any moderate-intensity or vigorous physical activity in the previous week. Within this age group, a higher proportion of females than males (15.4 per cent and 10.2 per cent respectively) had not participated in physical activity in the previous week.

Overall, 58.6 per cent of males and 55.1 per cent of females attained the threshold for physical activity to provide health benefits, as per the national guidelines. The proportion of males who undertook adequate physical activity in the previous week ranged from 52.1 per cent of those aged 65 years or over, to 64.9 per cent of those aged 18–24 years. The proportion of females who did sufficient regular physical activity ranged from 63.3 per cent of those aged 25–34 years, to 40.9 per cent of those aged 65 years or over. The proportions of males and females who were sufficiently active on most days of the week were similar for most age groups.

For more information

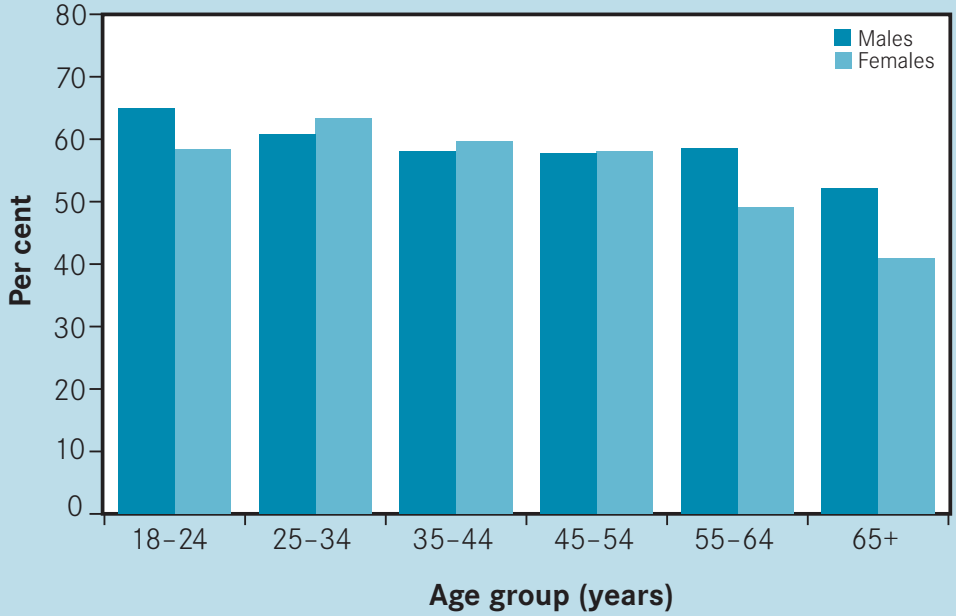
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, http://www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

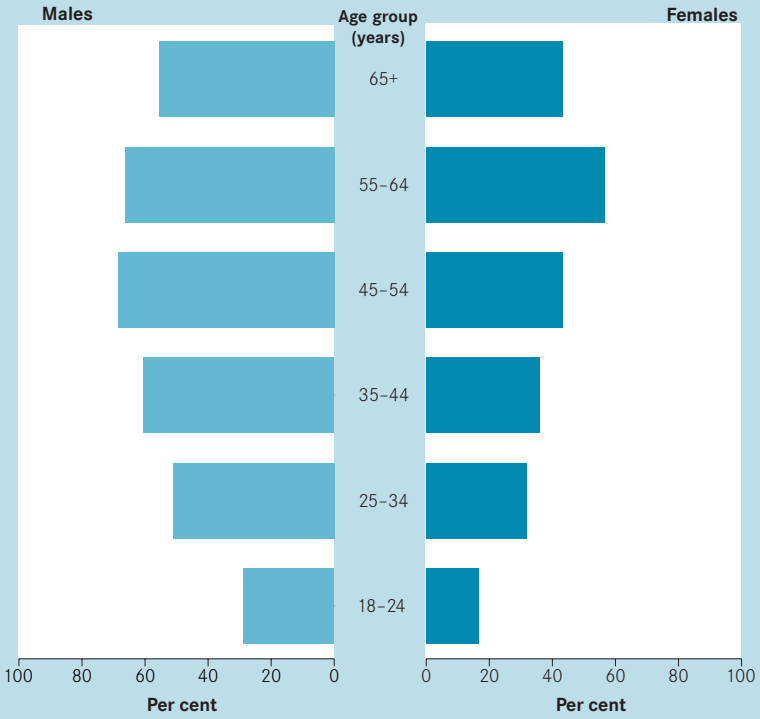
Levels of physical activity

Sufficient physical activity (time and sessions) during the previous week, persons aged 18 years or over, by sex, Victoria, 2004



Note: Sufficient physical activity is defined as participating in 150 or more minutes of at least moderate-intensity physical activity over five or more sessions per week.
Source: Department of Human Services, *Victorian population health survey 2004*.

Overweight/obesity



Note: Body mass index (BMI) = weight (kilograms)/height^2 (metres^2).
BMI categories are underweight (BMI <18.5); normal weight (BMI ≥18.5 and <25); overweight (BMI ≥25 and <30); and obese (BMI ≥ 30).

Overweight and obesity, which together can be termed excess weight, are major contributors to several chronic diseases. Excess weight is a condition of abnormal and excessive fat accumulation, to the extent that a person's health and wellbeing may be adversely affected. The primary cause of excess weight is an imbalance in the long term energy equation, with energy intake exceeding energy consumption. The measurement of excess weight as a risk factor for chronic diseases is not simple because both overall fat, and the regional distribution of fat, contribute to chronic disease development and progression. At the population level, a common indicator of excess weight (approximating body fat) is body mass index (BMI).

In the 2004 Victorian population health survey, similar proportions of males (14.3 per cent) and females (14.7 per cent) were classified as obese, while 41.7 per cent of males and 23.3 per cent of females were classified as overweight. Combining these two categories, 55.9 per cent of male and 38.1 per cent of female respondents were classified as overweight or obese.

The proportion of males categorised as either overweight or obese ranged from 28.8 per cent of those aged 18–24 years, to 68.6 per cent of those aged 45–54 years. The proportion of females categorised as overweight or obese ranged from 16.6 per cent of those aged 18–24 years, to 56.5 per cent of those aged 55–64 years.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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Health Priorities

This section contains information on national health priority areas including cardiovascular disease, diabetes, cancer, asthma, injury and poisoning, mental health, and selected musculoskeletal conditions such as rheumatoid arthritis, osteoarthritis and osteoporosis. Mothers' and children's health and key communicable diseases indicators are also presented.

Cardiovascular disease

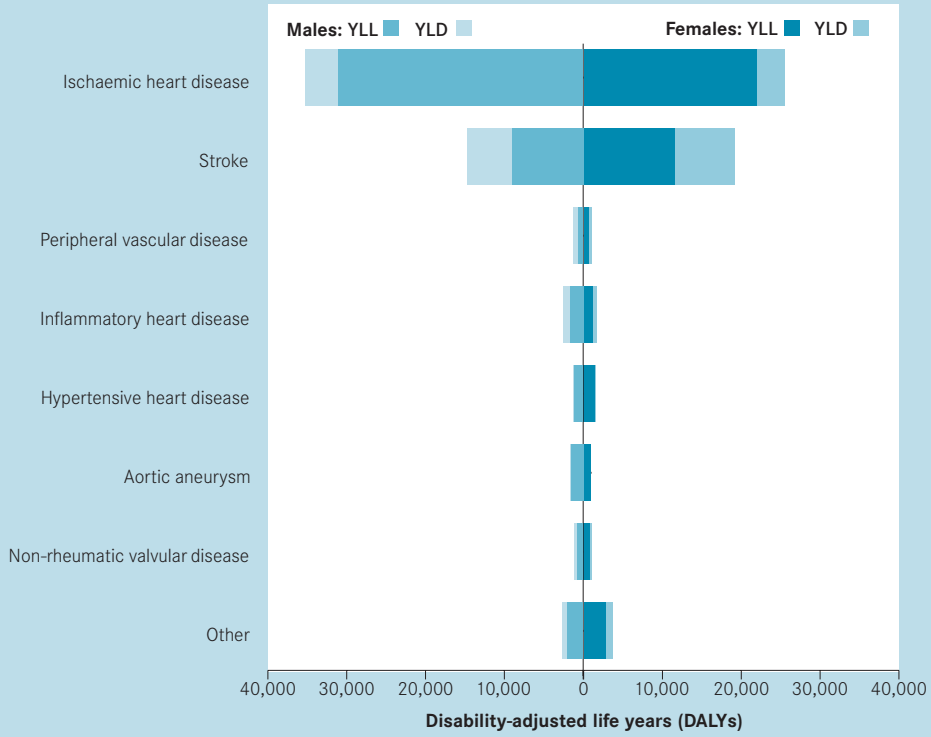
In this chapter

Summary

- Cardiovascular disease was responsible for almost 18 per cent of the total disease burden in Victoria in 2001, or 60,389 DALYs in males and 54,664 in females. Over 75 per cent of this attributable burden is due to mortality. Ischaemic heart disease and stroke are the major contributors, accounting for 53 per cent and 29 per cent of the cardiovascular disease burden respectively.
- In 2004, persons aged 50 years or over were significantly more likely to have had their blood pressure checked recently, compared with persons aged less than 50 years.
- Screening for elevated blood cholesterol levels was found to be higher among those aged 50 years or over, with 78.5 per cent of males and 72.2 per cent of females in this age group reporting that they had undergone a recent cholesterol check in 2004.
- There were 39,958 hospital admissions for ischaemic heart disease as first (principal) diagnosis in 2003–04, with an average of 3.96 bed days. The overall admission rates for ischaemic heart disease varied from 7.61 per 1,000 persons in 1999–2000, to 7.30 per 1,000 persons in 2003–04.
- Hospital admission rates for ischaemic heart disease were between 15 per cent and 22 per cent higher in rural Victoria compared with metropolitan areas over the five-year period 1999–2004.
- There were 3,195 hospital admissions for stroke as first (principal) diagnosis in 2003–04, with an average of 3.81 bed days. The overall hospital admission rate for stroke was fairly steady, varying from 5.85 per 10,000 persons in 1999–2000 to 5.70 per 10,000 persons in 2003–04.
- Hospital admission rates for stroke were higher in rural Victoria compared with metropolitan areas during 1999–2003, but in 2003–04, the rates for stroke in rural and metropolitan areas were almost identical.

Burden of cardiovascular disease

The burden of cardiovascular disease by disease and sex, Victoria, 2001



Cardiovascular diseases	Males DALY	Males YLL	Males YLD	Females DALY	Females YLL	Females YLD
Other	2,647	2,008	639	3,747	2,764	983
Non-rheumatic valvular disease	1,130	760	369	1,045	797	248
Aortic aneurysm	1,591	1,549	43	933	917	16
Hypertensive heart disease	1,296	1,139	158	1,550	1,436	114
Inflammatory heart disease	2,465	1,691	775	1,627	1,230	397
Peripheral vascular disease	1,313	620	693	1,109	602	507
Stroke	14,713	9,036	5,677	19,096	11,582	7,514
Ischaemic heart disease	35,233	31,050	4,184	25,557	21,936	3,621
TOTAL	**60,389**	**47,852**	**12,537**	**54,664**	**41,264**	**13,400**

Note: YLL = years of life lost; YLD = years lived with disability; DALY = disability-adjusted life years.

Cardiovascular disease was responsible for almost 18 per cent of the total disease burden in Victoria in 2001, or 60,389 DALYs in males and 54,664 in females. Over 75 per cent of this attributable burden is due to mortality. Ischaemic heart disease and stroke are the major contributors, accounting for 53 per cent and 29 per cent of the cardiovascular disease burden respectively. These are also the top two causes of overall DALYs. The contribution of ischaemic heart disease is about 25 per cent higher in males than females, while that of stroke is about 30 per cent lower. Per capita burden from cardiovascular diseases increases exponentially with age, from insignificant proportions in young adulthood to about one-third of the total burden in the elderly.

For more information

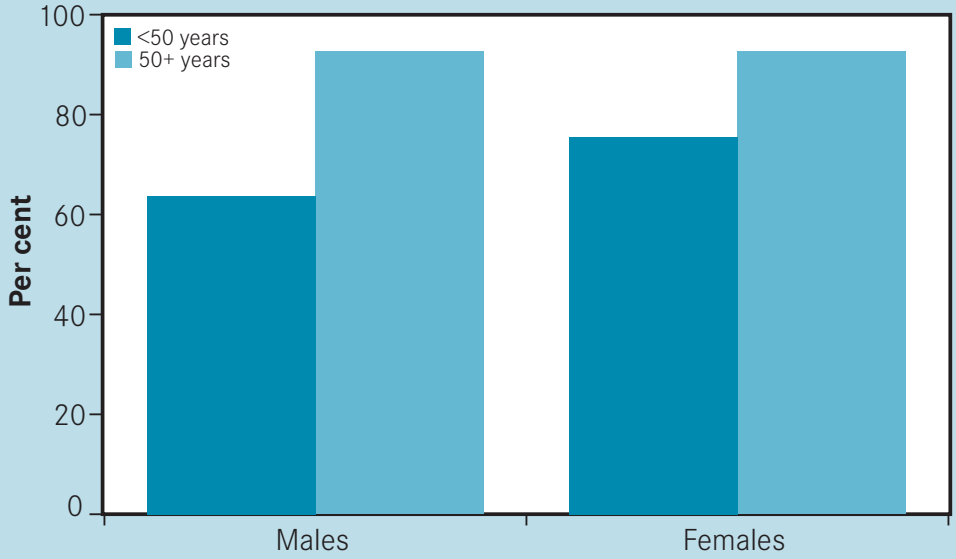
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

Dr Leonard S Piers, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 1868**, **Leonard.Piers@dhs.vic.gov.au**

Blood pressure checks

Blood pressure checks in the past two years, by sex and age group, Victoria, 2004



Blood pressure checks in past two years	<50 years (per cent)	50+ years (per cent)
Males	63.7	92.6
Females	75.5	92.9

Source: Department of Human Services, *Victorian population health survey 2004.*

In the two years before the survey, 78.5 per cent of adults reported having had their blood pressure checked. The proportions of males and females in the older age group who had had their blood pressure checked within the past two years were 92.6 per cent and 92.9 per cent respectively.

Those aged 50 years or over were significantly more likely than those aged less than 50 years to have had their blood pressure checked recently. Among adults aged less than 50 years, 69.6 per cent had had their blood pressure checked in the previous two years. A significantly greater proportion of females (75.5 per cent) aged less than 50 years had had their blood pressure checked recently, compared with males (63.7 per cent) in this age group.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004,* www.health.vic.gov.au/healthstatus/vphs.htm

Contact

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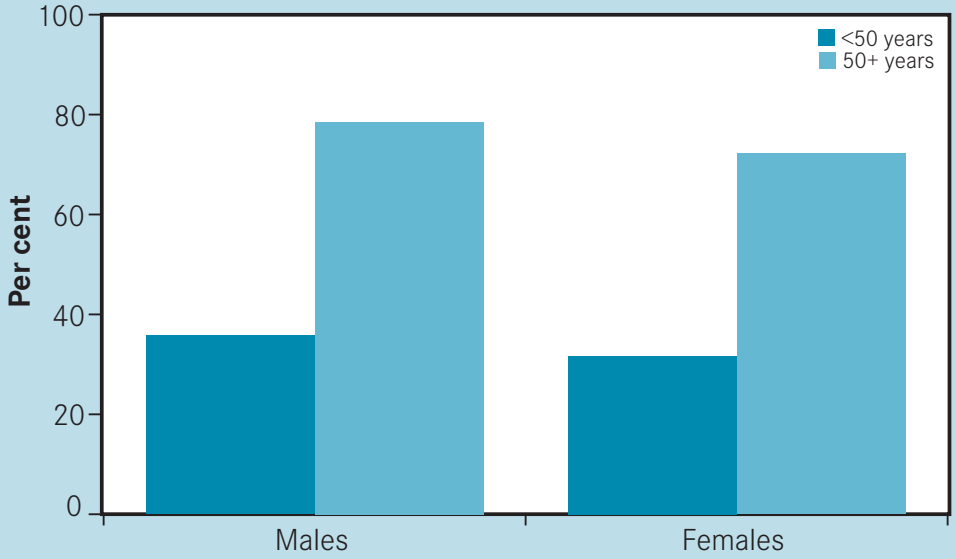
Cholesterol checks

Cholesterol checks in the past two years, by sex and age group, Victoria, 2004



Cholesterol checks in past two years	<50 years (per cent)	50+ years (per cent)
Males	35.8	78.5
Females	31.7	72.2

Source: Department of Human Services, *Victorian population health survey 2004*.

In the two years before the survey, 49.7 per cent of adults indicated that they had had a cholesterol check. Screening for elevated blood cholesterol levels was found to be higher among those aged 50 years or over, with 78.5 per cent of males and 72.2 per cent of females in this age group reporting that they had undergone a recent cholesterol check. The proportion of males aged less than 50 years who had had their cholesterol checked in the past two years was 35.8 per cent, compared with 31.7 per cent of females in this age group.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

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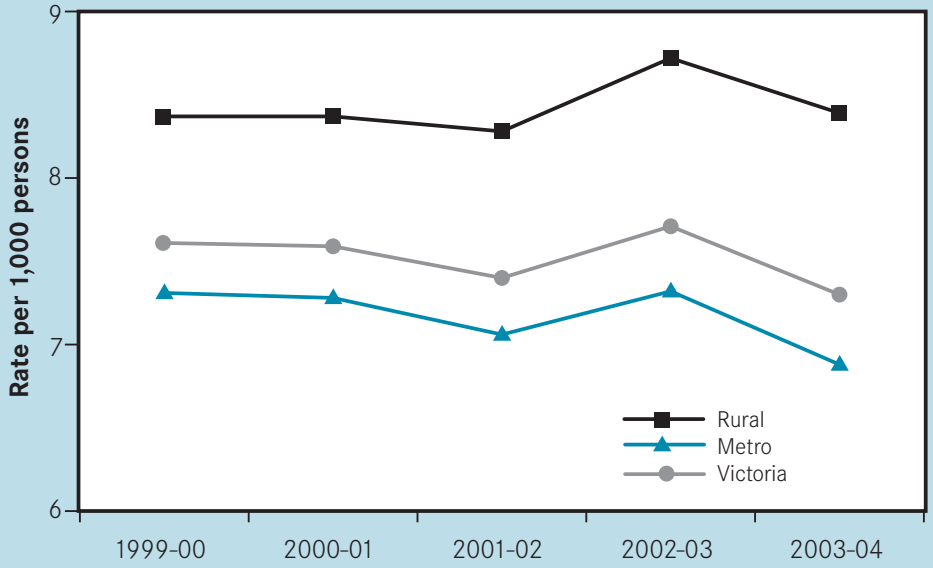
Ischaemic heart disease admissions

Ischaemic heart disease admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 1,000 persons	Rural	8.37	8.37	8.28	8.72	8.39
	Metro	7.31	7.28	7.06	7.32	6.88
	Victoria	7.61	7.59	7.40	7.71	7.30
Rural:Metro rate ratios (Metro=1)		**1.15**	**1.15**	**1.17**	**1.19**	**1.22**

Note: ICD-10-AM codes were used to identify all ischaemic heart disease admissions from 1999–2000 to 2003–04. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996.

Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

Ischaemic heart disease (IHD) is the largest single cause of premature death in Australia and is more common among middle aged and elderly people. IHD is caused by an inadequate blood flow to the heart, resulting from blockages in the coronary arteries supplying blood to the heart muscle. These blockages are usually due to the accumulation of fatty and fibre-like substances in the inner wall of the artery.

There were 39,958 admissions for IHD as first (principal) diagnosis in 2003–04, with an average of 3.96 bed days. The overall admission rates for IHD vary, from 7.61 per 1,000 persons (7.72–7.68) in 1999–2000 to 7.30 per 1,000 persons (7.23–7.37) in 2003–04.

Over the same five-year period, admission rates for IHD were between 15 per cent and 22 per cent higher in rural Victoria compared with metropolitan areas.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–02*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/cardio

National Health Priority Action Council (NHPAC), www.nhpac.gov.au

Contact

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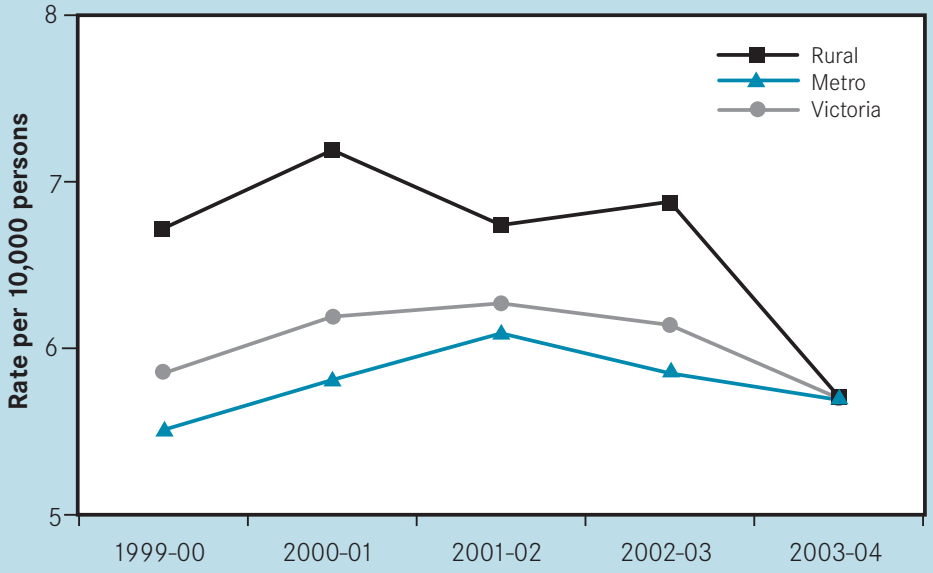
Stroke admissions

Stroke admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 10,000 persons	Rural	6.72	7.19	6.74	6.88	5.71
	Metro	5.51	5.81	6.09	5.85	5.69
	Victoria	5.85	6.19	6.27	6.14	5.70
Rural:Metro rate ratios (Metro=1)		**1.22**	**1.24**	**1.11**	**1.17**	**1.00**

Note: ICD–10–AM codes were used to identify all stroke admissions from 1999–2000 to 2003–04. Stroke is also known as cerebrovascular disease. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996.

Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

Stroke includes a group of diseases that affect the arteries supplying blood to the brain. It is the second leading cause of death in Australia, a large contributor to disability, and places a heavy burden on family members and care providers.

There were 3,195 admissions for stroke as first (principal) diagnosis in 2003–04, with an average of 3.81 bed days. The overall admission rate for stroke was fairly steady in the five-year period, varying from 5.85 per 10,000 persons (5.63–6.07) in 1999–2000 to 5.70 per 10,000 persons (5.50–5.90) in 2003–04.

Admission rates for stroke were higher in rural Victoria compared with metropolitan areas in the first four years of the five-year period, but in 2003–04, the admission rates for stroke in rural and metropolitan areas were almost identical.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–02*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/cardio

National Health Priority Action Council (NHPAC), www.nhpac.gov.au

Contact

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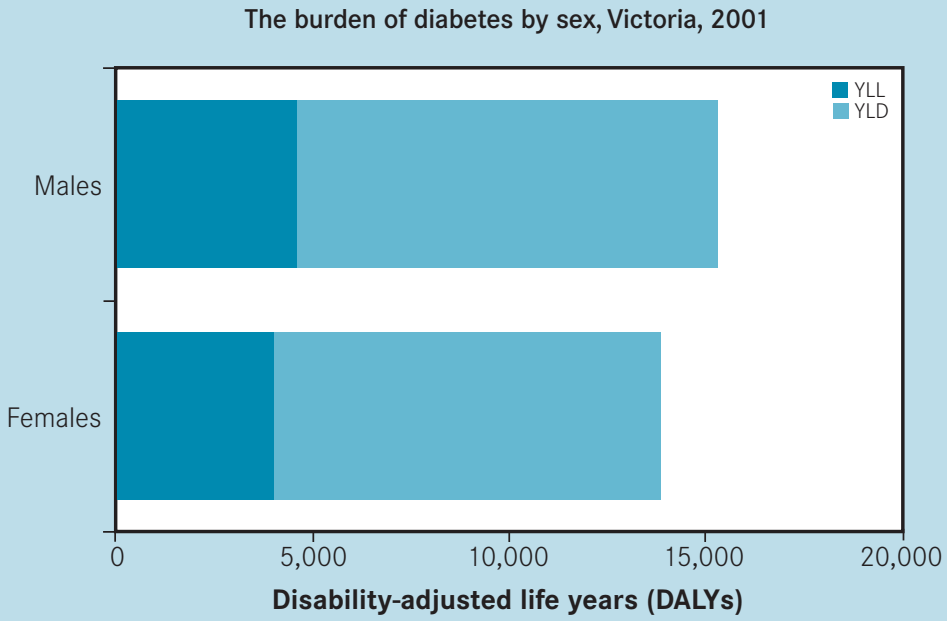
Diabetes mellitus

In this chapter

Summary

- Type 2 diabetes was the second leading cause of disease burden (DALYs) in males and the sixth in females in 2001.
- The attributable disease burden in 2001 was actually even larger because diabetes increases the risk of certain other conditions. When the attributable burden is taken into account, diabetes is the top ranked cause of disease burden in both men and women.
- Excluding females diagnosed with diabetes only during pregnancy, 4.7 per cent of adults reported in 2004 ever being told by a doctor that they had diabetes. The prevalence of diabetes among adults increased with age, and individuals aged 65 years or over reported the highest rate (13.7 per cent).
- There were 16,447 hospital admissions for diabetes as first (principal) diagnosis in 2003–04, with an average of 5.24 bed days.
- There were 121,751 hospital admissions for diabetes on any diagnosis (principal or other) in 2003–04, with an average of 6.15 bed days. The overall hospital admission rates for diabetes on any diagnosis increased steadily from 18.41 per 1,000 persons in 1999–2000 to 22.57 per 1,000 persons in 2003–04.
- Diabetes hospital admission rates for rural areas were above those for metropolitan areas throughout 1999–2004; 2 per cent above in 1999–2000, increasing to 11 per cent above in 2003–04.

Burden of diabetes



Diabetes	DALYs	YLLs	YLDs
Males	15,315	4,581	10,733
Females	13,868	3,984	9,884
Total	**29,183**	**8,565**	**20,617**

Note: DALYs = disability-adjusted life years; YLLs = years of life lost; YLDs = years lived with disability.

The burden from diabetes includes both Type 1 and Type 2 diabetes mellitus. Type 2 diabetes is the second leading cause of disease burden in males and sixth in females. Just over 25 per cent of the burden is due to premature mortality. The attributable disease burden is actually even larger because diabetes increases the risk of other conditions (for example, ischaemic heart disease, stroke and peripheral vascular disease). When the attributable burden is taken into account diabetes is the top ranked cause of disease burden in both men and women.

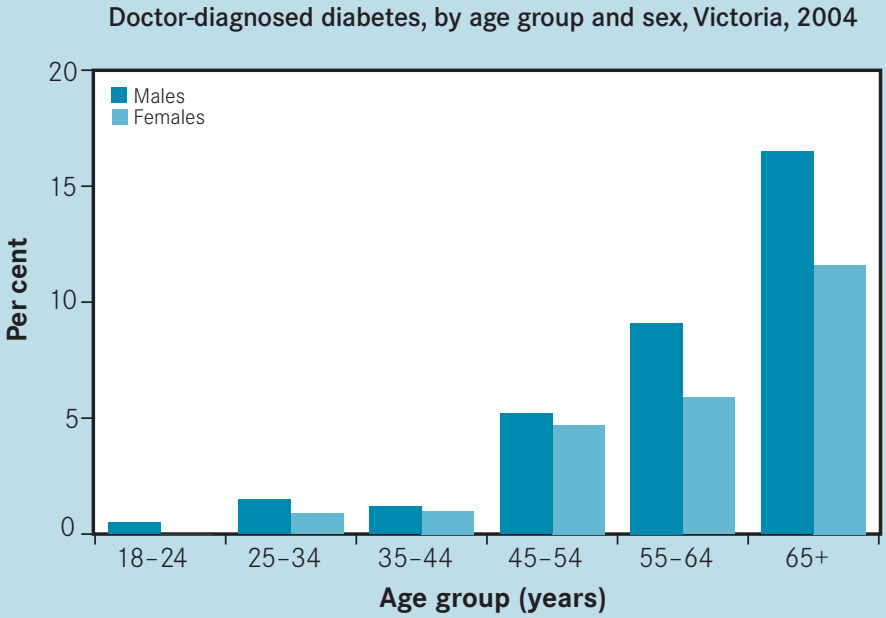
For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

Dr Leonard S Piers, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 1868**, **Leonard.Piers@dhs.vic.gov.au**

Diabetes prevalence



Age group (years)	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
18–24	0.5	0.4	0.0	0.0	0.3	0.2
25–34	1.5	0.7	0.9	0.4	1.2	0.4
35–44	1.2	0.4	1.0	0.4	1.1	0.3
45–54	5.2	1.2	4.7	0.9	4.9	0.8
55–64	9.1	1.8	5.9	1.1	7.5	1.0
65+	16.5	2.1	11.6	1.4	13.7	1.2
Total	**5.3**	**0.5**	**4.1**	**0.4**	**4.7**	**0.3**

Note: SE = standard error.

Source: Department of Human Services, *Victorian population health survey 2004*.

Excluding females diagnosed with diabetes only during pregnancy, 4.7 per cent of adults reported being told by a doctor that they have diabetes. Overall, the prevalence of diabetes among adults increased with age, and individuals aged 65 years or over reported the highest prevalence rate (13.7 per cent).

For more information

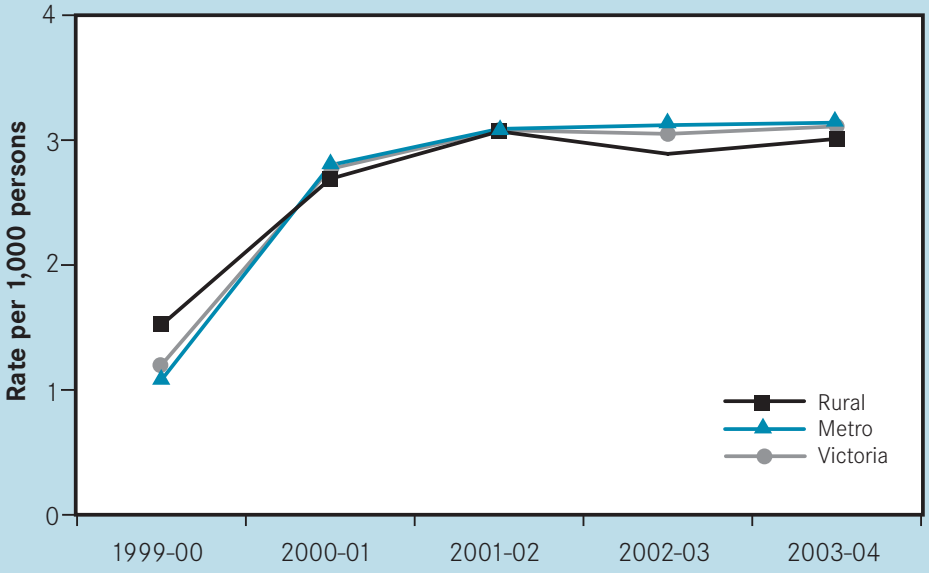
Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004* and *Victorian burden of disease study 2005*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Diabetes (principal diagnosis only) admissions

Diabetes (first/principal diagnosis only) admission rates for rural and metropolitan regions, Victoria, 1999–2004



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 1,000 persons	Rural	1.52	2.69	3.07	2.89	3.01
	Metro	1.08	2.80	3.09	3.12	3.14
	Victoria	1.20	2.77	3.08	3.05	3.11
Rural:Metro rate ratios (Metro=1)		**1.40**	**0.96**	**0.99**	**0.93**	**0.96**

Note: ICD-10-AM codes were used to identify all diabetes admissions from 1999–2000 to 2003–04. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996. A change in coding practice for diabetes as a principal diagnosis occurred between 1990–2000 and 2000–01 leading to an apparent sharp increase in admission rates.

Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

Diabetes mellitus is a major cause of death, illness and disability in Australia. Diabetes is also an important risk factor for several other chronic diseases including heart disease, stroke and renal disease. A proportion of diabetes admissions are for complications that may lead to blindness and lower limb amputations. Diabetes complications are ambulatory care sensitive conditions (ACSCs), for which hospitalisation may be avoided with timely attention in a primary care setting. ACSCs (including diabetes complications) are covered in another section of this report.

There were 16,447 admissions for diabetes as first (principal) diagnosis in 2003–04, with an average of 5.24 bed days. The overall admission rates for diabetes as first diagnosis was fairly constant from 2001–02 to 2003–04, following the coding practice change in 2000–01.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–02*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/diabetes

National Health Priority Action Council (NHPAC), www.nhpac.gov.au

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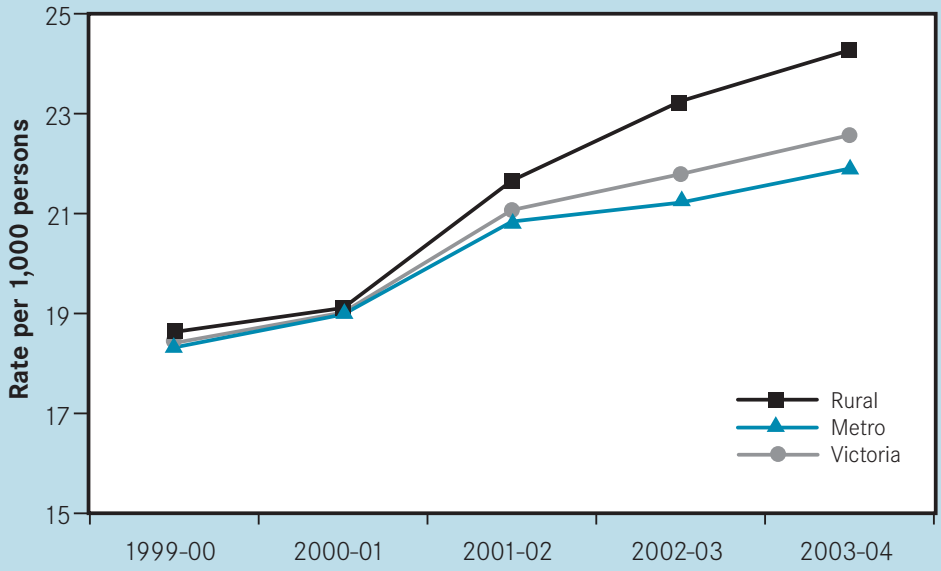
Diabetes (any diagnosis) admissions

Diabetes (any diagnosis) admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 1,000 persons	Rural	18.63	19.11	21.66	23.25	24.27
	Metro	18.32	18.98	20.84	21.22	21.90
	Victoria	18.41	19.02	21.07	21.79	22.57
Rural:Metro rate ratios (Metro=1)		**1.02**	**1.01**	**1.04**	**1.10**	**1.11**

Note: ICD-10-AM codes were used to identify all diabetes admissions from 1999–2000 to 2003–04. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by any (principal or other) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996.

Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

There were 121,751 admissions for diabetes on any diagnosis (principal or other) in 2003–04, with an average of 6.15 bed days. The overall admission rates for diabetes on any diagnosis increased steadily from 18.41 per 1,000 persons (18.28–18.53) in 1999–2000 to 22.57 per 1,000 persons (22.41–22.69) in 2003–04.

Admission rates for rural areas were above those for metropolitan areas throughout the five-year period, being 2 per cent above in 1999–2000 and increasing to 11 per cent above in 2003–04.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–02*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/diabetes

National Health Priority Action Council (NHPAC), www.nhpac.gov.au

Contact

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Cancer

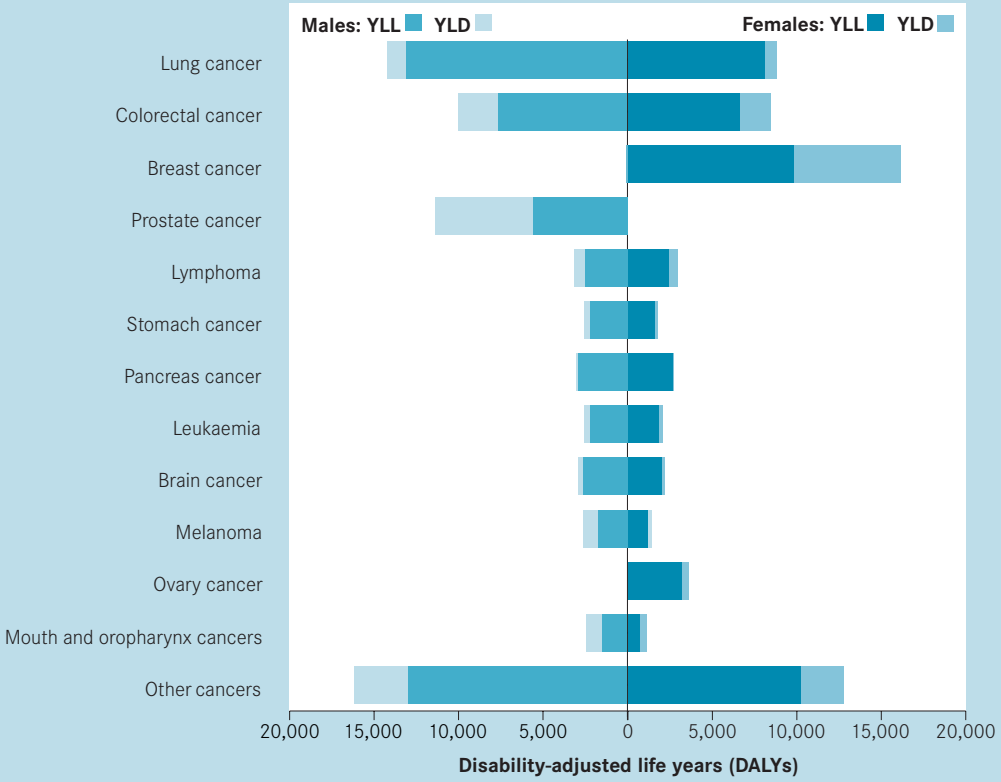
In this chapter

Summary

- Cancer was responsible for about 20 per cent of the total disease burden in Victoria in 2001, or 71,141 DALYs in males and 64,011 in females.
- In males, lung, prostate and colorectal cancers dominate, accounting for almost 50 per cent of the overall burden (DALYs) attributable to cancer.
- In females, breast, lung and colorectal cancers dominate, accounting for over 50 per cent of the overall burden attributable to cancer.
- Bowel cancer was the leading cancer site in Victorians in 2002. In men it ranked second after prostate cancer and in women, second after breast cancer.
- Breast cancer incidence in women has continued to increase at around 2 per cent per year between 1992 and 2002, largely due to mammographic screening.
- Since 1995, prostate cancer incidence rates have fallen from almost 170 to 130 per 100,000 men, and appear to have stabilised.
- Lung cancer remains the fourth most common new cancer in Victoria (2,065 new cases) and was the leading cause of cancer death in 2002. Incidence rates continue to decline in men and increase slightly in women.
- Melanoma was the fifth most common new cancer in Victorians in 2002, accounting for 8 per cent of new cancers.

Burden of cancer

The burden of cancer for top twelve sites by sex, Victoria, 2001



	Males			Females		
Cancer	**DALYs**	**YLLs**	**YLDs**	**DALYs**	**YLLs**	**YLDs**
Other cancers	16,176	12,961	3,216	12,762	10,211	2,551
Mouth and oropharynx cancers	2,448	1,479	969	1,112	666	446
Ovary cancer	–	–	–	3,626	3,172	453
Melanoma	2,628	1,733	895	1,386	1,166	221
Brain cancer	2,907	2,642	265	2,152	2,002	150
Leukaemia	2,538	2,222	316	2,046	1,807	238
Pancreas cancer	3,030	2,920	110	2,716	2,613	103
Stomach cancer	2,533	2,226	307	1,762	1,560	202
Lymphoma	3,153	2,533	620	2,954	2,430	524
Prostate cancer	11,362	5,614	5,748	–	–	–
Breast cancer	85	85	–	16,182	9,797	6,385
Colorectal cancer	10,039	7,636	2,403	8,489	6,599	1,890
Lung cancer	14,240	13,079	1,161	8,824	8,070	755
TOTAL	**71,141**	**55,131**	**16,010**	**64,011**	**50,093**	**13,919**

Note: DALYS = disability-adjusted life years; YLLs = years of life lost; YLDs = years lived with disability.

Cancer was responsible for about 20 per cent of the total disease burden in Victoria in 2001, or 71,141 DALYs in males and 64,011 in females. Almost 80 per cent of this attributable burden is due to mortality. In males, the picture is dominated by lung, prostate and colorectal cancers which account for almost 50 per cent of the overall burden attributable to cancer. Lung cancer is the fourth leading cause of overall burden in males, while prostate cancer and colorectal cancer are seventh and ninth respectively. The picture in females is dominated by breast, lung and colorectal cancers, which together account for over 50 per cent of the overall burden attributable to cancer. Breast cancer is the fifth leading cause of the overall burden in females, while lung and colorectal cancers are eighth and tenth respectively. The contribution of lung, mouth and oropharynx cancers is almost twice as large in males as in females. This is largely due to the higher prevalence of smoking in males compared with females over 20 years ago. The per capita burden from cancer increases exponentially with age, from insignificant proportions in young adulthood to almost 20 per cent of the total burden in the elderly.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

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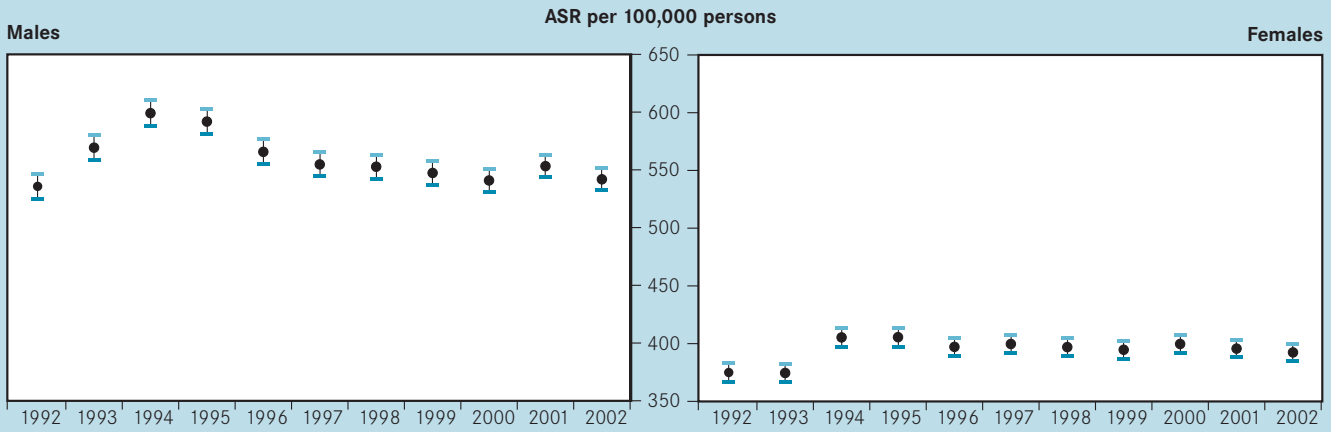
Cancer – all

All cancer, age standardised incidence rates, Victoria, 1992–2002



		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Males	Cases	9,389	10,256	10,977	11,078	10,899	10,945	11,097	11,268	11,409	11,966	12,183
	ASR	**535.7**	**569.2**	**599.1**	**591.8**	**565.6**	**554.7**	**552.7**	**547.3**	**540.8**	**553.2**	**541.8**
	Lower 95% CI	*525.0*	*558.3*	*588.0*	*580.9*	*555.1*	*544.4*	*542.5*	*537.3*	*531.0*	*543.4*	*532.2*
	Upper 95% CI	*546.7*	*580.4*	*610.4*	*603.0*	*576.4*	*565.2*	*563.1*	*557.5*	*550.8*	*563.2*	*551.5*
Females	Cases	8,180	8,280	9,103	9,238	9,294	9,556	9,685	9,834	10,164	10,254	10,455
	ASR	**375.0**	**374.6**	**405.4**	**405.6**	**397.2**	**399.7**	**397.0**	**394.7**	**399.7**	**395.7**	**392.4**
	Lower 95% CI	*366.9*	*366.6*	*397.1*	*397.4*	*389.2*	*391.8*	*389.2*	*387.0*	*392.0*	*388.1*	*384.9*
	Upper 95% CI	*383.2*	*382.7*	*413.8*	*414.0*	*405.3*	*407.8*	*405.0*	*402.6*	*407.5*	*403.4*	*400.0*

Notes: Cases = new diagnoses in calendar year.
ASR = Age standardised incidence rate per 100,000 (standardised to Victorian 2001 population) persons.
Lower and upper 95% CI = 95% confidence interval for ASR.
Source: The Cancer Council Victoria, Cancer Epidemiology Centre, Cancer Control Research Institute.

Cancer incidence is defined as the occurrence of new cancers in a defined population during a specified period of time.

There were 22,638 new cases of cancer in Victoria in 2002, with 53.8 per cent in males.

The standardised incidence rates in 2002 were 541.8 per 100,000 males and 392.4 per 100,000 females.

The overall five-year survival rate from cancer in Victorians diagnosed from 1990 to 1997 was 56 per cent (The Cancer Council Victoria, 2003, *Cancer survival in Victoria*).

For more information

The Cancer Council Victoria (Victorian Cancer Registry, Cancer Epidemiology Centre), 2003, *Cancer survival in Victoria; relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 1999*, www.cancervic.org.au/cancer1/facts/vic.htm

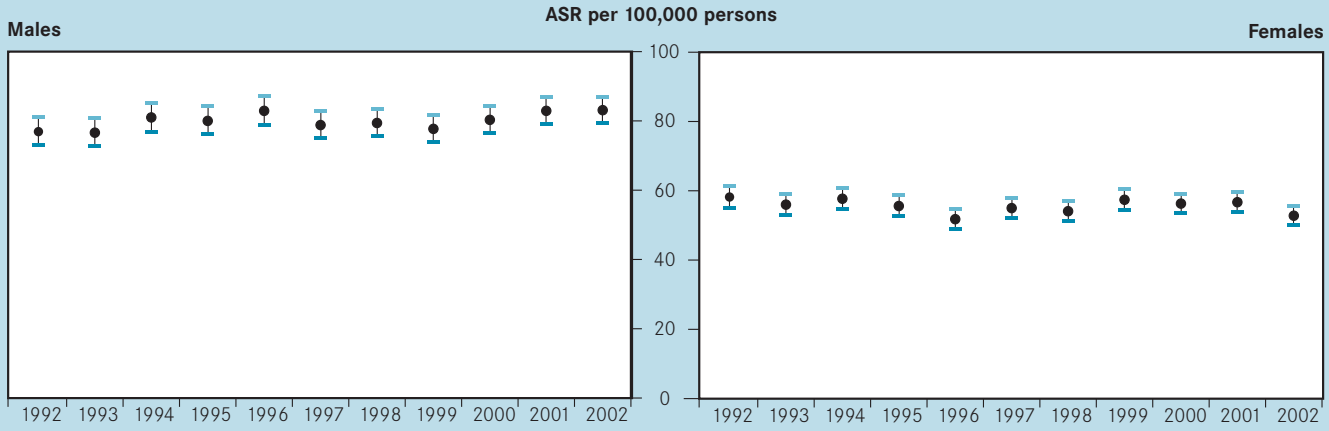
The Cancer Council Victoria, 2004, *Canstat: Cancer in Victoria 2002*.

Contact

The Cancer Council Victoria, Cancer Epidemiology Centre, Cancer Control Research Institute, telephone **61 3 9635 5000**, **cec@cancervic.org.au**

Bowel cancer

Bowel cancer, age standardised incidence rates, Victoria, 1992–2002



		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Males	Cases	1,339	1,387	1,477	1,492	1,594	1,550	1,600	1,609	1,690	1,789	1,864
	ASR	**76.9**	**76.6**	**81.0**	**80.0**	**82.9**	**78.8**	**79.4**	**77.7**	**80.3**	**82.9**	**83.1**
	Lower 95% CI	*72.9*	*72.7*	*76.9*	*76.1*	*78.9*	*75.0*	*75.6*	*74.0*	*76.6*	*79.2*	*79.4*
	Upper 95% CI	*81.2*	*80.8*	*85.2*	*84.2*	*87.1*	*82.9*	*83.4*	*81.6*	*84.2*	*86.9*	*87.0*
Females	Cases	1,281	1,255	1,313	1,293	1,243	1,345	1,353	1,465	1,470	1,512	1,449
	ASR	**58.2**	**56.0**	**57.7**	**55.6**	**51.8**	**55.0**	**54.1**	**57.4**	**56.3**	**56.7**	**52.8**
	Lower 95% CI	*55.1*	*53.0*	*54.7*	*52.7*	*49.0*	*52.1*	*51.3*	*54.5*	*53.5*	*53.9*	*50.1*
	Upper 95% CI	*61.5*	*59.2*	*60.9*	*58.8*	*54.8*	*58.0*	*57.1*	*60.4*	*59.2*	*59.6*	*55.6*

Notes: Cases = new diagnoses in calendar year.
ASR = Age standardised incidence rate per 100,000 (standardised to Victorian 2001 population) persons.
Lower and upper 95% CI = 95% confidence interval for ASR.
Source: The Cancer Council Victoria, Cancer Epidemiology Centre, Cancer Control Research Institute.

Bowel (colon and rectum) cancer was again the most common new cancer in Victoria in 2002, with 3,313 cases (15 per cent of all cancers).

Bowel cancer remains the leading cancer site in Victorians. In men, it ranks second after prostate cancer and in women, second after breast cancer.

The five-year survival rate from colon and rectal cancer diagnosed from 1990 to 1997 was 55 per cent (The Cancer Council Victoria, 2003, *Cancer survival in Victoria*).

For more information

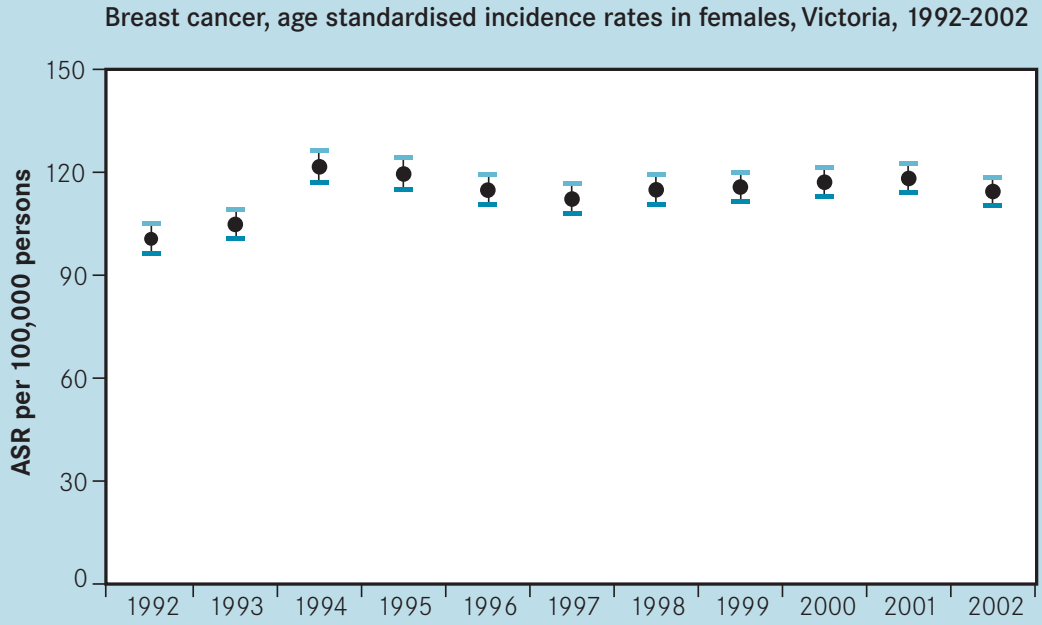
The Cancer Council Victoria (Victorian Cancer Registry, Cancer Epidemiology Centre), 2003, *Cancer survival in Victoria; relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 1999*, www.cancervic.org.au/cancer1/facts/vic.htm

The Cancer Council Victoria, 2004, *Canstat: Cancer in Victoria 2002.*

Contact

The Cancer Council Victoria, Cancer Epidemiology Centre, Cancer Control Research Institute, telephone **61 3 9635 5000**, **cec@cancervic.org.au**

Breast cancer



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Cases	2,132	2,259	2,663	2,655	2,622	2,611	2,736	2,806	2,901	2,985	2,968
ASR	**100.6**	**104.8**	**121.6**	**119.5**	**114.8**	**112.2**	**114.9**	**115.7**	**117.1**	**118.2**	**114.4**
Lower 95% CI	*96.4*	*100.6*	*117.1*	*115.1*	*110.5*	*108.0*	*110.7*	*111.5*	*112.9*	*114.0*	*110.4*
Upper 95% CI	*105.0*	*109.2*	*126.3*	*124.2*	*119.3*	*116.6*	*119.3*	*120.0*	*121.5*	*122.5*	*118.6*

Notes: Cases = new diagnoses in calendar year.
ASR = Age standardised incidence rate per 100,000 (standardised to Victorian 2001 population) persons.
Lower and upper 95% CI = 95% confidence interval for ASR.
Source: The Cancer Council Victoria, Cancer Epidemiology Centre, Cancer Control Research Institute.

Breast cancer was the second most common cancer in Victorians (after bowel), with 2,968 cases in women and 25 in men in 2002. Incidence in women continues to increase at around 2 per cent per year, largely due to mammographic screening.

The five-year survival rate from breast cancer diagnosed from 1990 to 1997 was 82 per cent (The Cancer Council Victoria, 2003, *Cancer survival in Victoria*).

For more information

The Cancer Council Victoria (Victorian Cancer Registry, Cancer Epidemiology Centre), 2003, *Cancer survival in Victoria; relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 1999*, www.cancervic.org.au/cancer1/facts/vic.htm

The Cancer Council Victoria, 2004, *Canstat: Cancer in Victoria 2002.*

Contact

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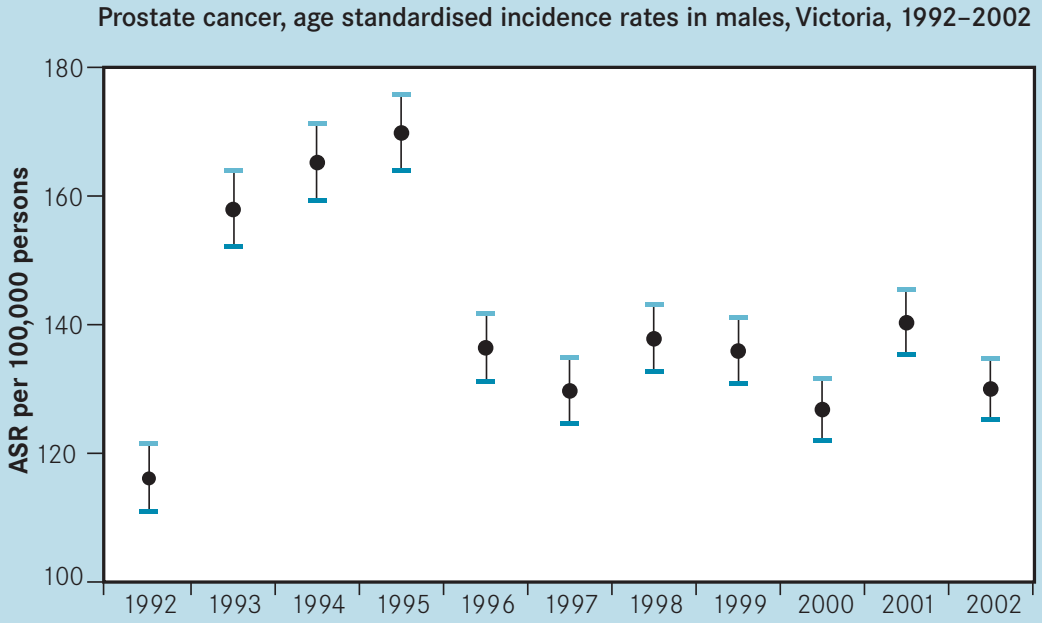
Prostate cancer



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Cases	1,869	2,705	2,918	3,106	2,559	2,472	2,674	2,724	2,621	2,981	2,900
ASR	**116.1**	**157.9**	**165.2**	**169.8**	**136.4**	**129.7**	**137.8**	**135.9**	**126.8**	**140.3**	**130.0**
Lower 95% CI	*111.0*	*152.1*	*159.3*	*163.9*	*131.2*	*124.7*	*132.7*	*130.9*	*122.0*	*135.4*	*125.3*
Upper 95% CI	*121.5*	*164.0*	*171.3*	*175.8*	*141.8*	*134.9*	*143.1*	*141.1*	*131.7*	*145.5*	*134.8*

Notes: Cases = new diagnoses in calendar year.
ASR = Age standardised incidence rate per 100,000 (standardised to Victorian 2001 population) persons.
Lower and upper 95% CI = 95% confidence interval for ASR.
Source: The Cancer Council Victoria, Cancer Epidemiology Centre, Cancer Control Research Institute.

Prostate cancer is the third most common cancer in Victoria, and the leading site in men. Incidence rates have fallen since 1995, from almost 170 to 130 per 100,000 men, and appear to have stabilised.

The five-year survival rate from prostate cancer diagnosed from 1990 to 1997 was 76 per cent (The Cancer Council Victoria, 2003, *Cancer survival in Victoria*).

For more information

The Cancer Council Victoria (Victorian Cancer Registry, Cancer Epidemiology Centre), 2003, *Cancer survival in Victoria; relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 1999*, www.cancervic.org.au/cancer1/facts/vic.htm

The Cancer Council Victoria, 2004, *Canstat: Cancer in Victoria 2002.*

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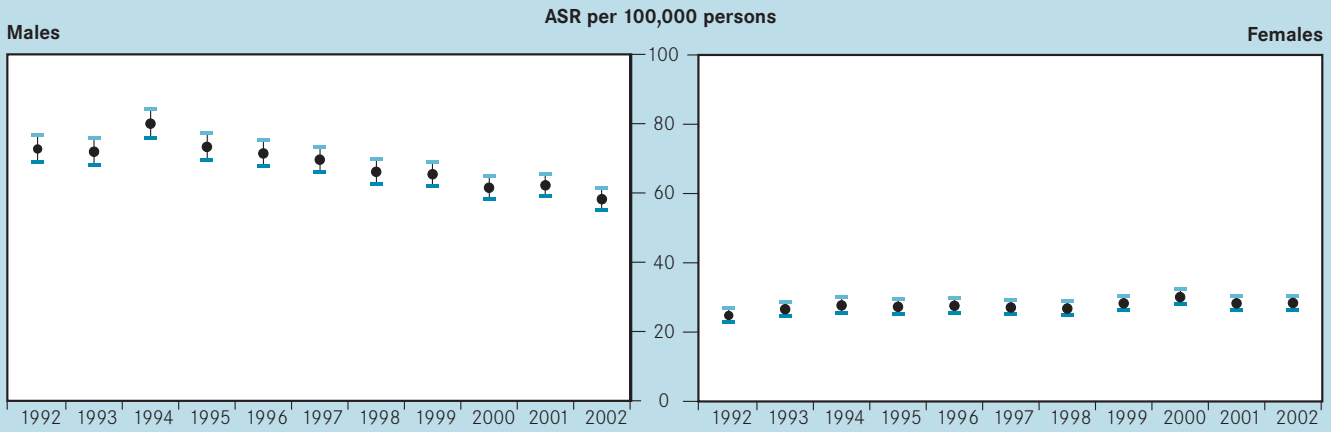
Lung cancer

Lung cancer, age standardised incidence rates, Victoria, 1992–2002



		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Males	Cases	1,286	1,309	1,475	1,378	1,373	1,366	1,322	1,332	1,294	1,338	1,294
	ASR	**72.7**	**71.9**	**80.0**	**73.3**	**71.4**	**69.6**	**66.1**	**65.4**	**61.5**	**62.2**	**58.2**
	Lower 95% CI	*68.8*	*68.1*	*76.0*	*69.6*	*67.8*	*66.0*	*62.6*	*62.0*	*58.3*	*59.0*	*55.1*
	Upper 95% CI	*76.8*	*75.9*	*84.1*	*77.3*	*75.3*	*73.4*	*69.7*	*69.0*	*65.0*	*65.6*	*61.4*
Females	Cases	554	595	631	631	654	659	662	717	774	748	771
	ASR	**24.8**	**26.6**	**27.7**	**27.3**	**27.6**	**27.1**	**26.8**	**28.3**	**30.1**	**28.3**	**28.4**
	Lower 95% CI	*22.8*	*24.6*	*25.6*	*25.3*	*25.6*	*25.1*	*24.8*	*26.3*	*28.0*	*26.4*	*26.5*
	Upper 95% CI	**27.0**	**28.8**	**30.0**	**29.6**	**29.8**	**29.2**	**28.9**	**30.4**	**32.3**	**30.4**	**30.5**

Notes: Cases = new diagnoses in calendar year.
ASR = Age standardised incidence rater per 100,000 (standardised to Victorian 2001 population).
Lower and upper 95% CI = 95% confidence interval for ASR.
Source: Cancer Epidemiology Centre, Cancer Control Research Institute, The Cancer Council Victoria.

Lung cancer remains the fourth most common new cancer in Victoria (2,065 new cases) and the leading cause of cancer death in 2002. Incidence rates continue to decline in men and increase slightly in women.

The five-year survival rate from lung cancer diagnosed from 1990 to 1997 was 11 per cent and was higher in women (12 per cent) than in men (10 per cent) (The Cancer Council Victoria, 2003, *Cancer survival in Victoria*).

For more information

The Cancer Council Victoria (Victorian Cancer Registry, Cancer Epidemiology Centre), 2003, *Cancer survival in Victoria; relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 1999*,
www.cancervic.org.au/cancer1/facts/vic.htm

The Cancer Council Victoria, 2004, *Canstat: Cancer in Victoria 2002*.

Contact

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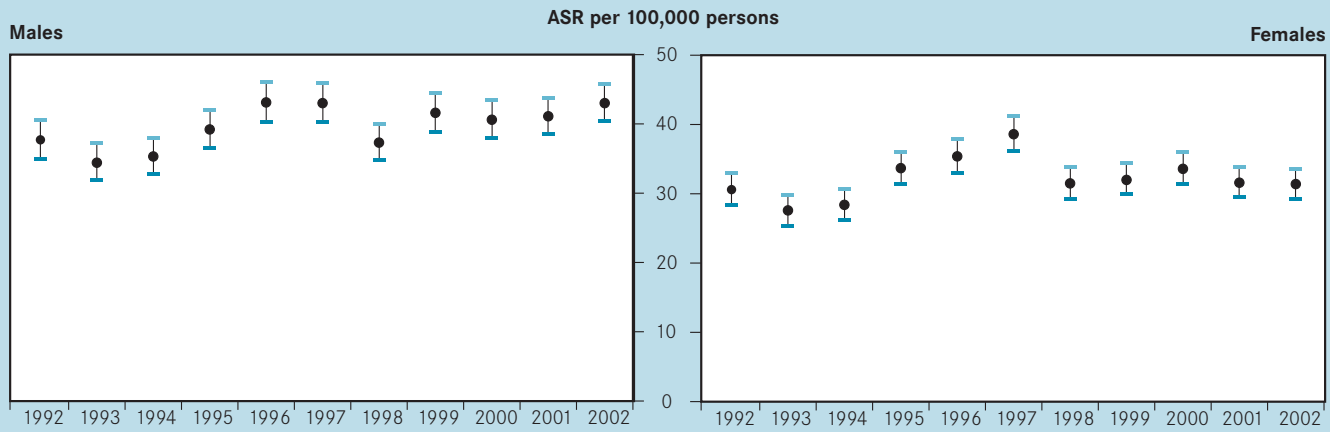
Melanoma



		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Males	Cases	714	657	687	771	870	900	784	883	887	919	990
	ASR	**37.7**	**34.4**	**35.3**	**39.2**	**43.1**	**43.0**	**37.3**	**41.6**	**40.6**	**41.1**	**43.0**
	Lower 95% CI	35.0	31.9	32.7	36.5	40.3	40.3	34.8	38.9	38.0	38.5	40.4
	Upper 95% CI	40.6	37.2	38.0	42.0	46.1	45.9	40.0	44.4	43.4	43.8	45.8
Females	Cases	671	607	631	762	814	908	750	783	840	797	817
	ASR	**30.6**	**27.6**	**28.4**	**33.7**	**35.4**	**38.6**	**31.5**	**32.0**	**33.6**	**31.6**	**31.4**
	Lower 95% CI	28.4	25.4	26.2	31.4	33.0	36.2	29.3	29.9	31.4	29.5	29.3
	Upper 95% CI	33.0	29.8	30.7	36.1	37.9	41.2	33.8	34.4	36.0	33.9	33.6

Notes: Cases = new diagnoses in calendar year.
ASR = Age-standardised incidence rates per 100,000 (standardised to Victorian 2001 population).
Lower and upper 95% CI = 95% confidence interval for ASR.
Source: Cancer Epidemiology Centre, Cancer Control Research Institute, The Cancer Council Victoria.

Melanoma was the fifth most common new cancer in Victorians in 2002, accounting for 8 per cent of new cancers.

The five-year relative survival rate from melanoma diagnosed from 1990 to 1997 was 91 per cent. This is the highest survival of any cancer, except testicular cancer in males. Relative survival was 88 per cent in men and slightly higher (94 per cent) in women (The Cancer Council Victoria, 2003, *Cancer survival in Victoria*).

For more information

The Cancer Council Victoria (Victorian Cancer Registry, Cancer Epidemiology Centre), 2003, *Cancer survival in Victoria; relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 1999*,
www.cancervic.org.au/cancer1/facts/vic.htm

The Cancer Council Victoria, 2004, *Canstat: Cancer in Victoria 2002.*

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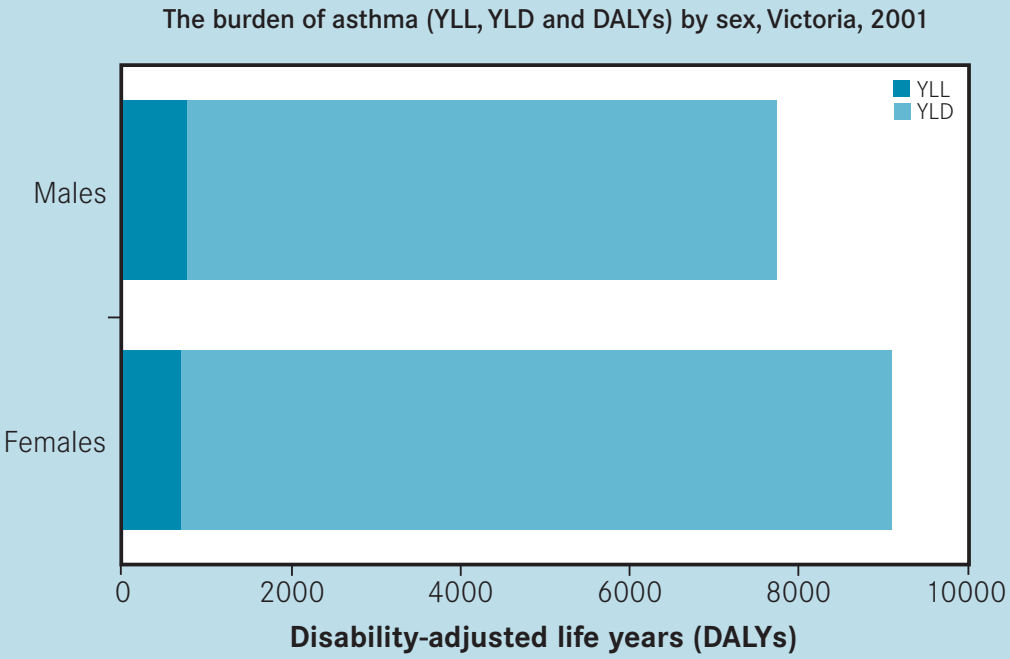
Asthma

In this chapter

Summary

- Chronic respiratory disease was responsible for 7 per cent of the total disease burden (DALYs) in Victoria in 2001. Asthma was responsible for over a third of this burden. Younger age groups were most likely to have ever been diagnosed with asthma, with 28.2 per cent of males and 8.9 per cent of females aged 18–24 years reporting ever being told by a doctor that they had the condition in 2004.
- There were 9,041 hospital admissions for asthma as principal diagnosis in 2003–04, with an average of 2.28 bed days . The overall rate of hospital admission for asthma has decreased from 2.15 per 1,000 persons in 1999–2000 to 1.89 per 1,000 persons in 2003–04. There has been a decline in the rates of asthma hospital admissions in both rural and metropolitan areas. The rural admission rates for asthma declined from 2.66 per 1,000 persons in 1999–2000 to 2.13 per 1,000 in 2003–04, a 19.9 per cent reduction. During the same period, admission rates in metropolitan areas declined from 1.95 per 1,000 persons to 1.80 per 1,000 persons, a 7.7 per cent reduction.

Burden of asthma



Asthma	DALYs	YLLs	YLDs
Males	7,748	758	6,990
Females	9,106	681	8,425
Total	**16,854**	**1,439**	**15,415**

Note: DALYs = disability-adjusted life years; YLLs = years of life lost; YLDs = years lived with disability.

Chronic respiratory disease was responsible for 7 per cent of the total disease burden in Victoria in 2001. Asthma was responsible for over a third of this burden, with the attributable burden due to premature mortality less than 10 per cent. In terms of its contribution to the overall burden, asthma ranks thirteenth in males, and seventh in females.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

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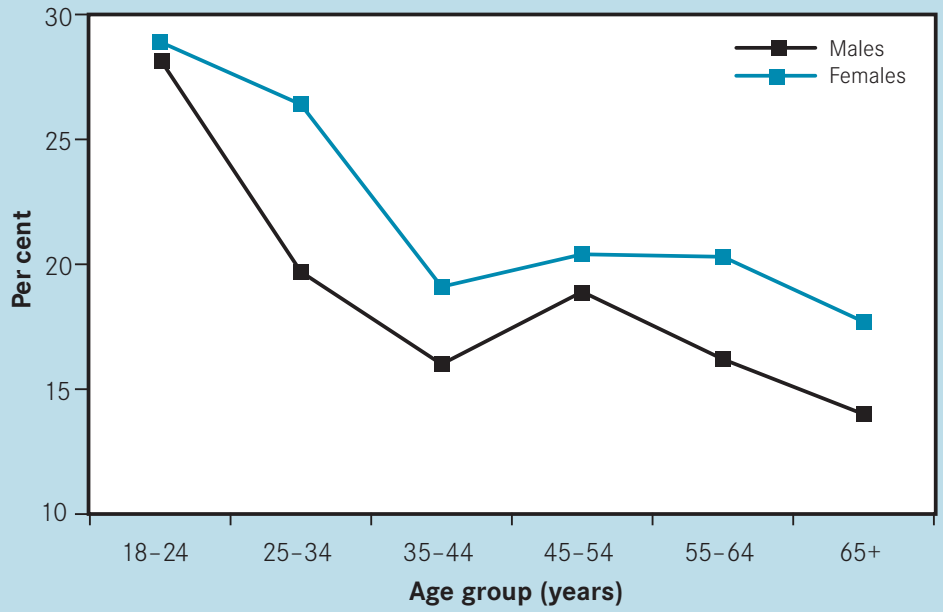
Prevalence of asthma ever

Prevalence of asthma ever, by age group and sex, Victoria, 2004



Asthma ever	Age group (years) 18–24	25–34	35–44	45–54	55–64	65+	Total
Males	28.2	19.7	16.0	18.9	16.2	14.0	**18.6**
Females	28.9	26.4	19.1	20.4	20.3	17.7	**21.8**

Source: Department of Human Services, *Victorian population health survey 2004*.

Younger age groups were most likely to have ever been diagnosed with asthma, with 28.2 per cent of males and 28.9 per cent of females aged 18–24 years reporting being told by a doctor that they had the condition. Overall, 21.8 per cent of females and 18.6 per cent of males reported that they had ever been diagnosed with asthma. Asthma prevalence was higher among females in most age groups, but not significantly so for any of the age groups considered.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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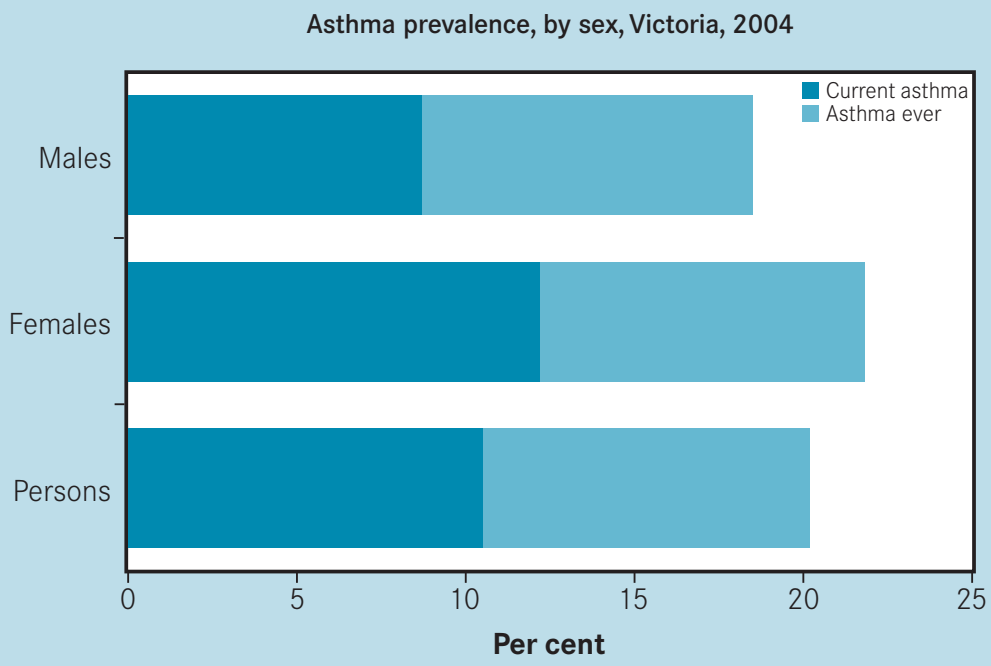
Prevalence of current asthma



	Current asthma	Asthma ever	Total asthma
Males	8.7	9.8	18.6
Females	12.2	9.6	21.8
Persons	10.5	9.7	20.2

Source: Department of Human Services, *Victorian population health survey 2004*.

An estimated 20.2 per cent of persons aged 18 years or over had ever been diagnosed with asthma (current asthma or asthma ever) and more than one in ten (10.5 per cent) reported having current asthma. The corresponding proportions in 2003 were 21.9 per cent and 12.6 per cent respectively.

The proportion of females who reported having current asthma (12.2 per cent) was greater than the proportion of males who had current asthma (8.7 per cent).

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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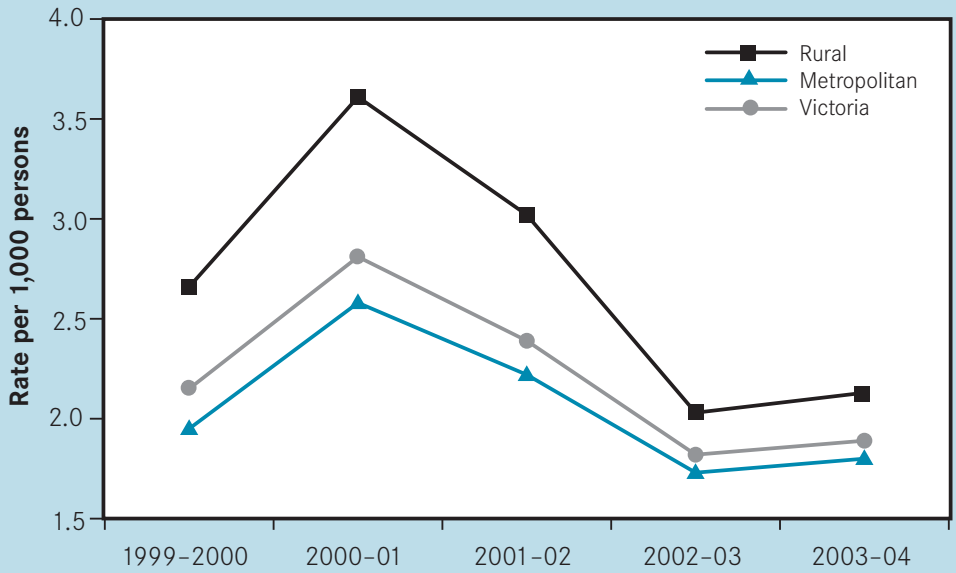
Asthma admissions

Asthma admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 1,000 persons	Rural	2.66	3.61	3.02	2.03	2.13
	Metro	1.95	2.58	2.22	1.73	1.80
	Victoria	2.15	2.81	2.39	1.82	1.89
Rural:Metro rate ratios (Metro=1)		**1.36**	**1.40**	**1.36**	**1.17**	**1.18**

Note: ICD-10-AM codes were used to identify asthma admissions from 1999–2000 to 2003–04. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Australian population at June 1996.
Source: Department of Human Services; Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

There were 9,041 admissions for asthma in 2003–04, with an average of 2.28 bed days where asthma was listed as the principal diagnosis. The overall rate of admission for asthma has decreased from 2.15 per 1,000 persons (2.11–2.20) in 1999–2000 to 1.89 per 1,000 persons (1.86–1.93) in 2003–04. This is a significant decrease in asthma hospitalisation rates, reflecting approximately a 12.1 per cent reduction in the total number of asthma admissions to Victorian hospitals over the five-year period.

There has been a decline in the rates of asthma admissions in both rural and metropolitan areas. The rural admission rates for asthma declined from 2.66 per 1,000 persons (2.57–2.76) in 1999–2000 to 2.13 per 1,000 persons (2.05–2.21) in 2003–04 (a 19.9 per cent reduction). During the same period, admission rates in metropolitan areas declined from 1.95 per 1,000 persons (1.90–2.00) to 1.80 per 1,000 persons (1.76–1.85), a 7.7 per cent reduction. Rural rates for asthma admissions were higher than for metropolitan areas over the entire five-year period.

Variations in hospital admission rates for asthma can be used as indirect evidence of deficiencies in ambulatory care and potential primary healthcare access problems. Analysis of variations in hospital admission rates can serve to highlight areas where interventions can be most effectively targeted, to improve ambulatory care and reduce hospital admissions.

For more information

Department of Human Services (Health Evaluation and Surveillance Section, Public Health Division) 2002, *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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Injury and poisoning

In this chapter

Summary

- Injury remains a leading cause of death, illness and disability. Injuries were responsible for about 9 per cent of the overall disease burden in men in 2001, or 29,707 DALYs. The burden in females is less than half this, at 12,203 DALYs.
- There were an estimated 1,715 injury deaths and 96,235 hospital admissions for injury (excluding medical injury) in 2002.
- The leading causes of injury deaths were suicide, mostly by hanging and carbon monoxide poisoning (31 per cent); transport, predominantly involving car occupants (25 per cent); falls (21 per cent); and unintentional poisoning (9 per cent).
- The leading causes of injury hospitalisations were falls, mainly slips, trips and stumbles and falls on the same level (42 per cent); and transport, mainly car occupant and motorcyclist injury (14 per cent).
- In 2001–02, 1,700 persons died due to injury and poisoning, an age adjusted death rate of 35.1 per 100,000 persons. These figures exclude 20 deaths from medical injury causes.
- In 2002–03, 53,419 persons were admitted to Victorian hospitals due to injury and poisoning, an age adjusted admission rate of 1,085 per 100,000 persons. These figures exclude 20,226 medical injury hospitalisations and a further 32,921 same-day injury hospitalisations.

Introduction

In Victoria, injury remains a leading cause of death, illness and disability. There were an estimated 1,715 injury deaths and 96,235 injury hospital admissions for injury (excluding medical injury) in 2002. Almost two-thirds of the deaths and about 90 per cent of admissions were for unintentional injury. The leading causes of injury deaths were suicide (31 per cent, mostly by hanging and carbon monoxide poisoning), transport (25 per cent, predominantly involving car occupants), falls (21 per cent) and unintentional poisoning (9 per cent). The leading causes of injury hospitalisations were falls (42 per cent, mainly slips, trips and stumbles and falls on the same level) and transport (14 per cent, mainly car occupant and motorcyclist injury).

This chapter describes trends in the frequency and rate of injury deaths and hospitalisations related to a set of indicators. These indicators reflect the effect of some of the planned or current priority injury prevention interventions in Victoria.

Shortcomings of the International Classification of Diseases (ICD) coding system, the transition from the ninth revision of the ICD (ICD-9) to ICD-10, and coding quality all limit the availability of important indicators of relevance to the Victorian and national injury prevention strategies. The chapter on external causes in ICD-10-Australian Modifications (ICD-10-AM), for example, provides coding for 'place of occurrence' (location of injury) and 'activity when injured', but for both variables, a large proportion of cases are currently coded to 'other specified' and 'unspecified' sub-codes. Because of this deficiency, reliable indicators for injury prevention priorities based on location or activity (such as occupational, home and sports injury), cannot be developed at present.

Coding and data quality issues pertaining to the Australian Bureau of Statistics–Death Unit Record File (ABS–DURF) and the Victorian Admitted Episodes Dataset (VAED) should be reviewed and addressed. The potential of other data sources should also be explored so that reliable indicators relevant to all the priority action areas in Victorian injury prevention strategies are developed in the future.

Injury and poisoning indicators

Indicators relating to mortality and morbidity included in this chapter are aligned where possible with the priority areas for prevention identified in the major Victorian injury prevention strategies and policies. These include the Victorian Injury Prevention Strategy 2005 (in draft form when this work was being done), the Victorian Road Safety Strategy 2002–07 and the Victorian Suicide Prevention Strategy (see table below). Due to a number of factors (predominantly related to data availability, data quality and coding changes), the indicators included here do not represent a complete coverage of injury-related priorities in these documents.

Indicators and their links to government, including injury prevention strategies and policies

Indicator	Injury prevention strategy link
Burden of injuries	*Victorian burden of disease study: mortality and morbidity in 2001*
Injury and poisoning (all causes): deaths and hospital admissions	Victorian Injury Prevention Strategy 2005–(draft)
Unintentional injury and poisoning (all causes): deaths and hospital admissions	Victorian Injury Prevention Strategy 2005–(draft)
Intentional self-harm injury: deaths and hospital admissions	Victorian Suicide Prevention Strategy
Assaultive injury: deaths and hospital admissions	*Safer streets and homes*, A crime and violence prevention strategy for Victoria, 2002–05
Unintentional motor vehicle traffic injury: deaths and hospital admissions	*arrive alive!* Victoria's Road Safety Strategy 2002–07
Poisoning (all intents): hospital admissions Poisoning (all intents) in persons aged 0–4 years: hospital admissions	Victorian Injury Prevention Strategy 2005–(draft) Victorian Injury Prevention Strategy 2005–(draft)
Unintentional injury-related forearm and wrist fracture	Victorian Injury Prevention Strategy 2005–(draft)
Unintentional injury-related hip fracture among persons aged 65–74 years Unintentional injury-related hip fracture in persons aged 75 years and older	Victorian Injury Prevention Strategy 2005–(draft) Victorian Falls Prevention Policy 'Making this the age to be in Victoria: a forward agenda for senior Victorians'
Unintentional glass cutting and piercing injury: hospital admissions	Victorian Injury Prevention Strategy 2005–(draft)

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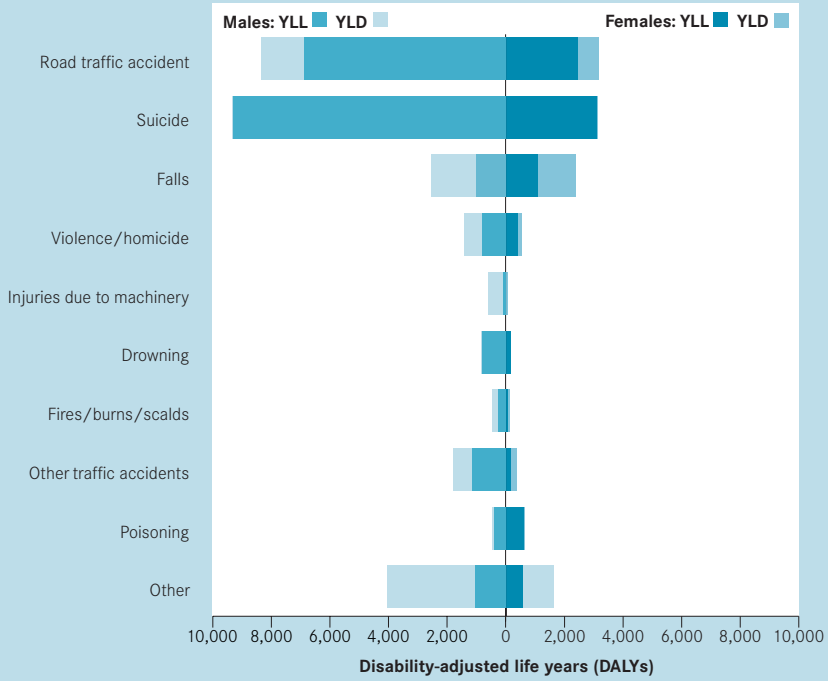
Burden of injuries

The burden of injuries by cause and sex, Victoria 2001



	Males			Females		
Cancer	**DALYs**	**YLLs**	**YLDs**	**DALYs**	**YLLs**	**YLDs**
Other	4,028	1,054	2,975	1,647	562	1,085
Poisoning	462	389	74	647	606	42
Other traffic accidents	1,773	1,155	618	367	158	210
Fires/burns/scalds	447	251	196	123	35	88
Drowning	812	811	1	150	150	1
Injuries due to machinery	570	85	486	54	–	54
Violence/homicide	1,416	809	607	545	391	154
Falls	2,522	1,008	1,515	2,366	1,063	1,304
Suicide	9,346	9,313	33	3,129	3,091	38
Road traffic accident	8,329	6,880	1,449	3,174	2,426	748
TOTAL	**29,707**	**21,753**	**7,953**	**12,203**	**8,481**	**3,722**

Note: DALYs = disability adjusted life years; YLL = years of life lost; YLD = years lived with disability.

Injuries were responsible for about 9 per cent of the overall disease burden in men in 2001, or 29,707 DALYs. The burden in females was less than half this, at 12,203 DALYs. Almost 70 per cent of the injury burden is due to premature mortality. In males the picture is dominated in equal proportions by suicide, road traffic accidents (RTA) and falls, which together account for almost 70 per cent of the male burden attributable to injuries. The first two are also the tenth and twelfth leading causes of overall male burden. In females the picture is also dominated by RTAs, suicides and falls which together account for just above 70 per cent of the female burden attributable to injuries. The first two of these are also the nineteenth and twentieth leading causes of overall female burden.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

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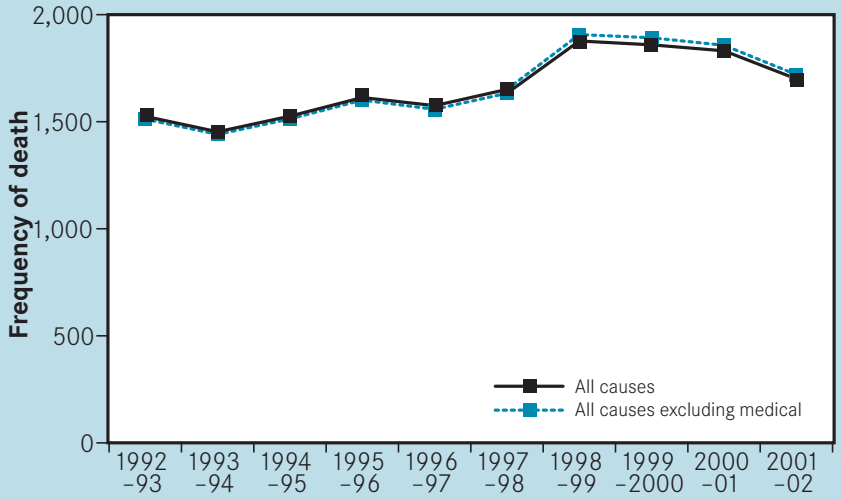
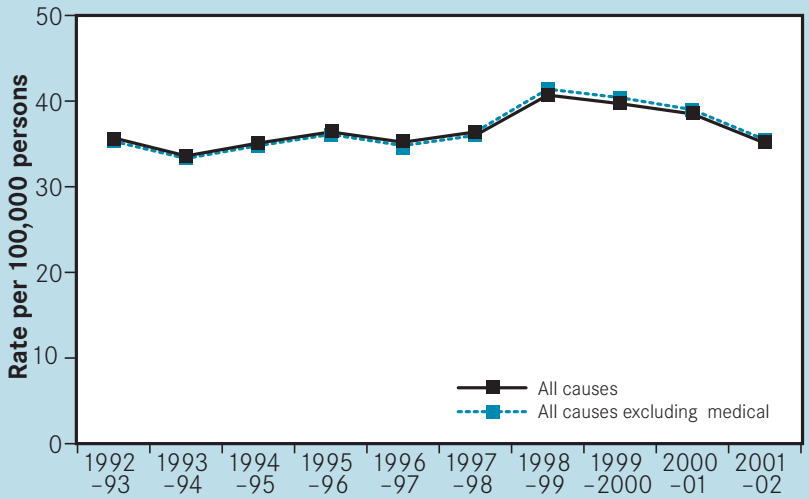
Injury and poisoning (all causes): deaths

Yearly trend in the frequency of injury and poisoning deaths, Victoria, 1992–93 to 2001–02



Yearly trend in the rate of injury and poisoning deaths, Victoria, 1992–93 to 2001–02



Selection criteria: (1) An ICD-9 cause of death code in the range 800–928, 930–958, 960–968, 970–978, 990–998 or an ICD-10 cause of death code in the range V00-Y84. (2) Deaths resulting from medical causes (adverse events and medical misadventure) were then excluded for final analysis (an ICD-9 external cause code in the range 870–879 or an ICD-10 code in the range Y40–Y84).
Source: Australian Bureau of Statistics–Death Unit Record File, July 1992 – June 2002.

- In 2001–02, 1,700 persons died in Victoria due to injury and poisoning, an age adjusted death rate of 35.1 per 100,000 persons. These figures exclude 20 deaths from medical injury causes.
- Males accounted for 68 per cent (n=1,147) of all injury and poisoning deaths in 2001–02.
- The four leading causes of injury and poisoning deaths in 2001–02 were intentional self-harm injury (n=507, 30 per cent), transport (n=486, 29 per cent), falls (n=343, 20 per cent) and unintentional poisoning (n=127, 8 per cent).
- The frequency of injury and poisoning deaths increased by 21 per cent in the decade 1992–93 to 2001–02, from an average of 1,489 deaths per year in the period 1992–95 to 1,797 per year in 2000–02.
- The injury and poisoning death rate increased by 10 per cent in the decade 1992–93 to 2001–02, from an average annual death rate of 34.5 per 100,000 persons in the period 1992–95 to 37.8 per 100,000 persons in 2000–02.

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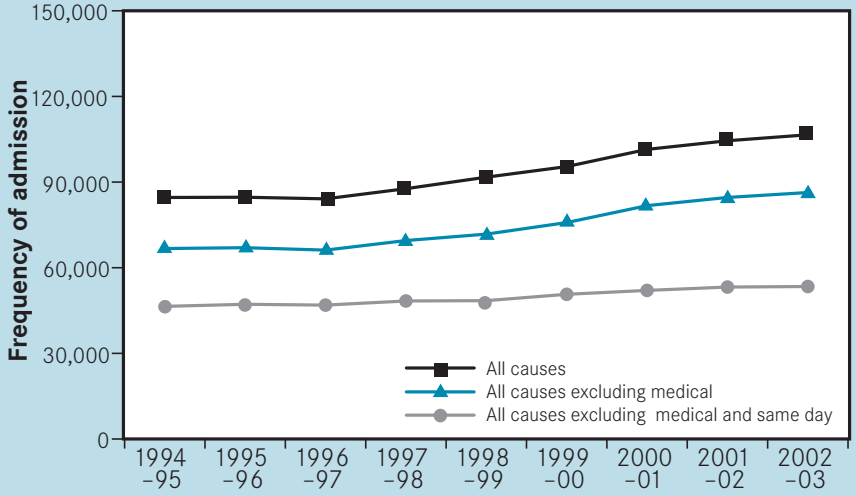
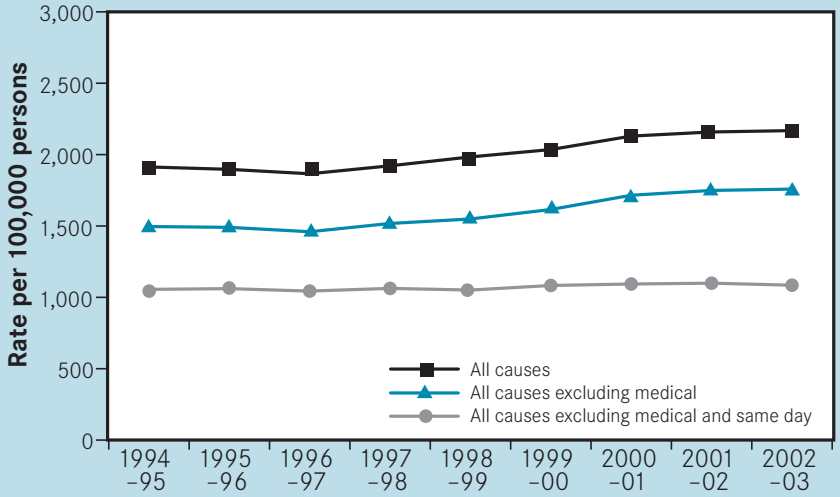
Injury and poisoning (all causes): hospital admissions

Yearly trend in the frequency of all injury and poisoning hospital admissions, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of all injury and poisoning hospital admissions, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 primary injury or poisoning diagnosis code in the range 800–904, 910–999 or an ICD-10 primary injury or poisoning diagnosis code in the range S00–T89. (2) Deaths and transfers within and between hospitals were excluded. (3) Admissions resulting from medical causes (an ICD-9 cause code in the range 870–879 or an ICD-10 cause code in the range Y40–Y84) and same-day records were excluded from final analysis but are shown on figures.
Note: All causes excludes deaths, transfers and records without injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 53,419 persons were admitted to Victorian hospitals due to injury and poisoning, an age adjusted admission rate of 1,085 per 100,000 persons. These figures exclude 20,226 medical injury hospitalisations and a further 32,921 same-day injury hospitalisations.
- Males accounted for 53 per cent (n=28,384) of all injury and poisoning hospital admissions in 2002–03.
- The four leading causes of injury and poisoning admissions in 2002–03 were falls (n=24,392, 46 per cent), transport (n=7,759, 15 per cent), other unintentional (n=5,282, 10 per cent) and self harm (n=3,483, 7 per cent).
- The frequency of injury and poisoning admissions increased by 13 per cent over the nine-year period from 1994–95 to 2002–03, from an annual average of 46,853 admissions in the period 1994–97 to 52,900 in the period 2001–03.
- There was little change in the injury and poisoning admission rate over the nine-year period 1994–95 to 2002–03, increasing by 4 per cent from an annual average admission rate of 1,053 per 100,000 persons in the period 1994–97 to 1,093 per 100,000 persons in 2001–03.

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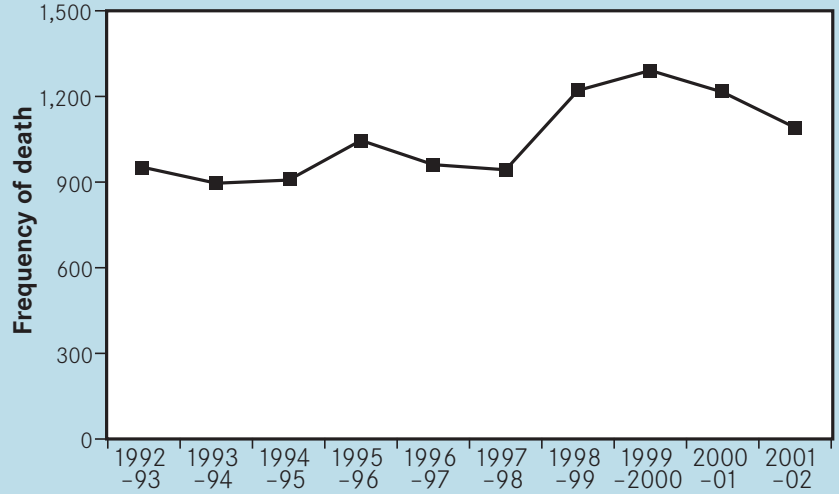
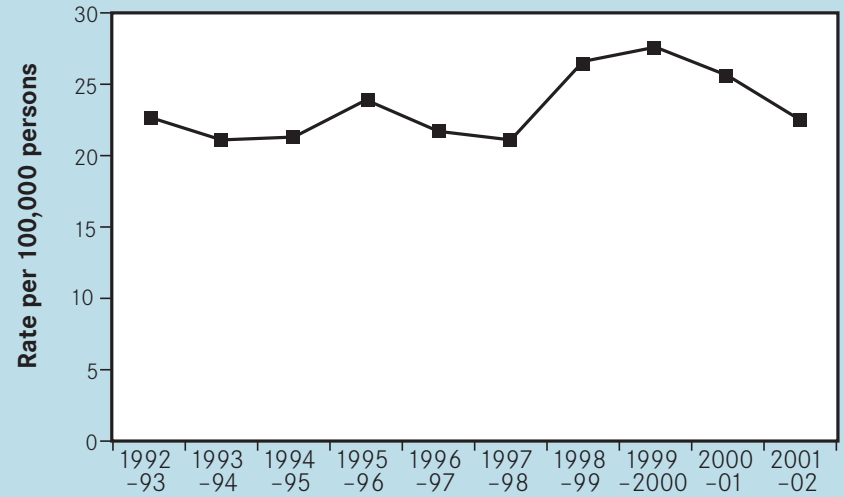
Unintentional injury and poisoning (all causes): deaths

Yearly trend in the frequency of unintentional injury and poisoning deaths, Victoria, 1992–93 to 2001–02



Yearly trend in the rate of unintentional injury and poisoning deaths, Victoria, 1992–93 to 2001–02



Selection criteria: An ICD-9 cause of death code in the range 800–928, 930–950 or an ICD-10 code in the range V00–X59.
Source: Australian Bureau of Statistics–Death Unit Record File, July 1992 – June 2002.

- In 2001–02, 1,091 persons died in Victoria due to unintentional injury and poisoning, an age adjusted death rate of 22.5 per 100,000 persons.
- Males accounted for 63 per cent (n=685) of all unintentional injury and poisoning deaths in 2001–02.
- The four leading causes of unintentional injury and poisoning deaths in 2001–02 were transport (n=486, 45 per cent), falls (n=343, 32 per cent), poisoning (n=127, 12 per cent) and drowning (n=34, 3 per cent).
- The frequency of unintentional injury and poisoning deaths increased by 31 per cent over the decade 1992–93 to 2001–02, from an average of 918 deaths per year in the period 1992–95 to 1,199 deaths per year in 2000–02.
- The unintentional injury and poisoning death rate increased by 16 per cent over the decade 1992–93 to 2001–02, from an average annual death rate of 21.7 per 100,000 persons in the period 1992–95 to 25.2 per 100,000 persons in 2000–02.

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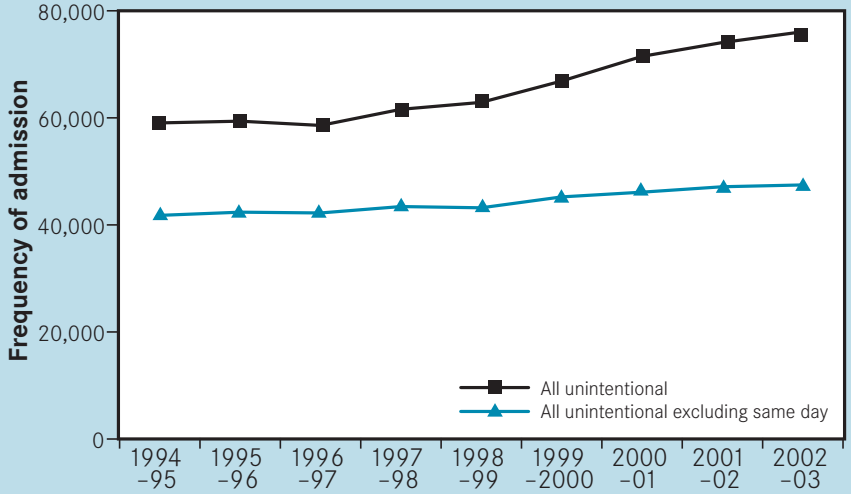
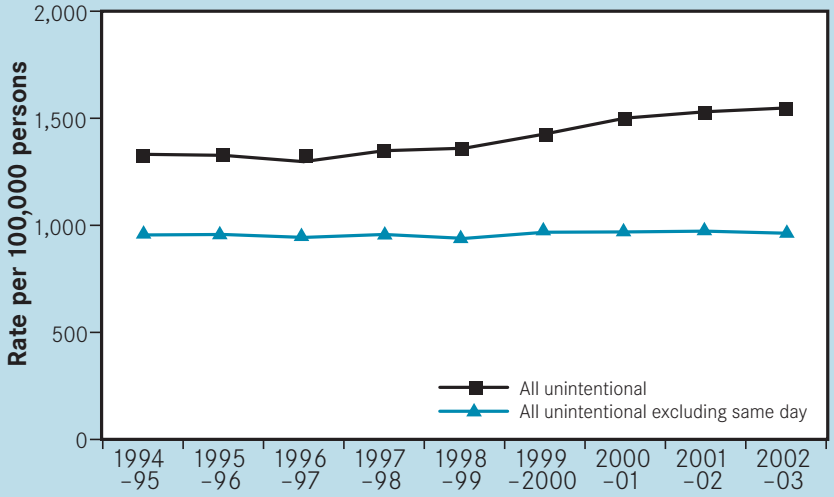
Unintentional injury and poisoning (all causes): hospital admissions

Yearly trend in the frequency of unintentional injury and poisoning hospital admissions, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of unintentional injury and poisoning hospital admissions, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 injury or poisoning diagnosis code in the range 800–904, 910–999 or an ICD-10 diagnosis code in the range S00–T89 where the cause of injury was unintentional. (2) Deaths and transfers within and between hospitals were excluded. (3) Same-day records were excluded from the final analysis, but are shown on figures.

Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 47,466 persons were admitted to Victorian hospitals due to unintentional injury and poisoning, an age adjusted admission rate of 963 per 100,000 persons. These figures exclude 28,622 same-day injury hospitalisations.
- Males accounted for 54 per cent (n=25,437) of all unintentional injury and poisoning hospital admissions in 2002–03.
- The four leading causes of unintentional injury and poisoning admissions in 2002–03 were falls (n=24,392, 51 per cent), transport (n=7,759, 16 per cent), other unintentional (n=5,282, 11 per cent) and hit/struck/crush incidents (n=3,071, 7 per cent).
- The frequency of unintentional injury and poisoning admissions increased by 11 per cent over the nine-year period 1994–95 to 2002–03, from an average of 42,130 admissions in the period 1994–97 to 46,903 per year in 2001–03.
- There was little change in the unintentional injury and poisoning admission rate over the nine-year period 1994–95 to 2002–03, increasing by 2 per cent from an average admission rate of 952 per 100,000 persons in the period 1994–97 to 968 per 100,000 persons in 2001–03.

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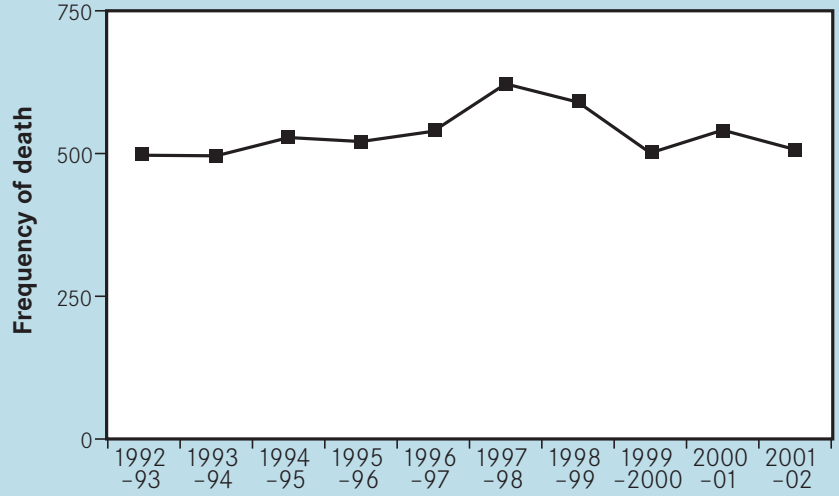
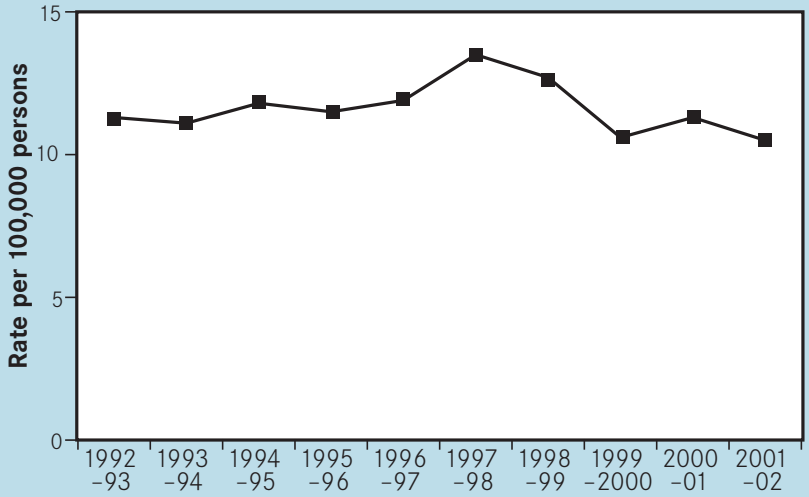
Intentional self-harm injury: deaths

Yearly trend in the frequency of intentional self-harm injury deaths, Victoria, 1992–93 to 2001–02



Yearly trend in the rate of intentional self-harm injury deaths, Victoria, 1992–93 to 2001–02



Selection criteria: An ICD-9 cause of death code in the range 950–959 or an ICD-10 cause of death code in the range X60–X84.
Source: Australian Bureau of Statistics–Death Unit Record File, July 1992 – June 2002.

- In 2001–02, 507 persons died in Victoria due to intentional self-harm injury, an age adjusted death rate of 10.5 per 100,000 persons.
- Males accounted for 77 per cent (n=390) of all intentional self-harm injury deaths in 2001–02.
- The four leading causes of intentional self-harm injury deaths in 2001–02 were hanging, strangulation and suffocation (n=217, 43 per cent), other gases and vapours–mostly carbon monoxide (n=109, 22 per cent), firearms (n=33, 7 per cent) and jumping or lying before a moving object (n=30, 6 per cent).
- There was little change in the frequency of intentional self-harm injury deaths over the decade 1992–93 to 2001–02, increasing by just 2 per cent from an average of 507 deaths per year in the period 1992–95 to 516 per year in 2000–02.
- The intentional self-harm injury death rate decreased by 5 per cent over the decade 1992–93 to 2001–02, from an average annual death rate of 11.4 per 100,000 persons in the period 1992–95 to 10.8 per 100,000 persons in 2000–02.

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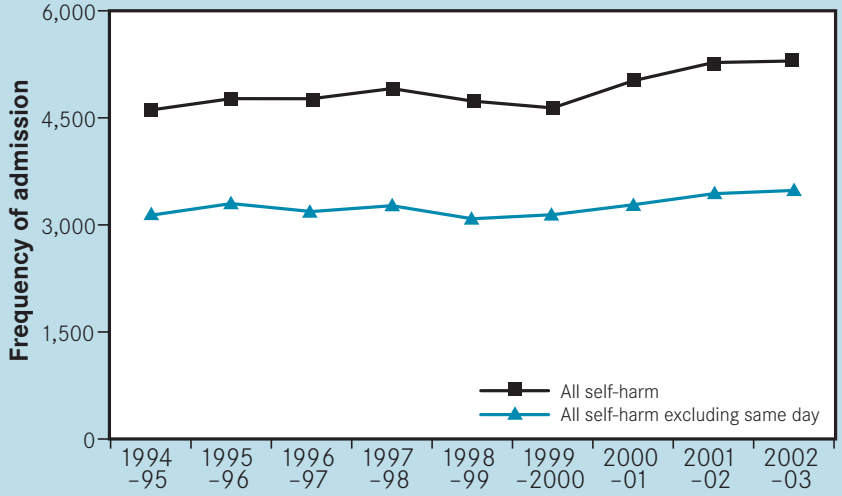
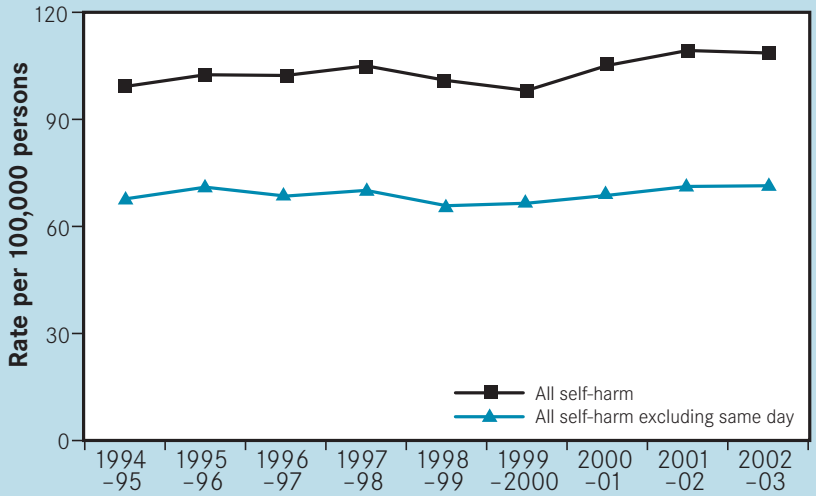
Intentional self-harm injury: hospital admissions

Yearly trend in the frequency of intentional self-harm injury hospital admissions, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of intentional self-harm injury hospital admissions, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 injury or poisoning diagnosis code in the range 800–904, 910–999 or an ICD-10 diagnosis code in the range S00–T89 if the cause of injury was intentional self harm. (2) Deaths and transfers within and between hospitals were excluded. (3) Same-day records were excluded from the final analysis, but are shown on figures.
Note: All self-harm excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 3,483 persons were admitted to Victorian hospitals due to intentional self-harm injury, an age adjusted admission rate of 71.4 per 100,000 persons. These figures exclude 1,814 same-day hospitalisations.
- Females accounted for 63 per cent (n=2,193) of intentional self-harm injury hospital admissions in 2002–03.
- The leading causes of intentional self-harm injury admissions in 2002–03 were poisoning by pharmaceuticals (n=2,814, 81 per cent), sharp objects (n=349, 10 per cent) and poisoning by other substances (n=180, 5 per cent).
- The frequency of intentional self-harm injury admissions increased by 6 per cent over the nine-year period 1994–95 to 2002–03, from an average of 3,207 admissions in the period 1994–97 to 3,401 in 2001–03.
- The intentional self-harm injury admission rate was stable over the nine-year period 1994–95 to 2002–03, increasing by just 2 per cent from an average admission rate of 69.1 per 100,000 persons in the period 1994–97 to 70.4 per 100,000 persons in 2001–03.

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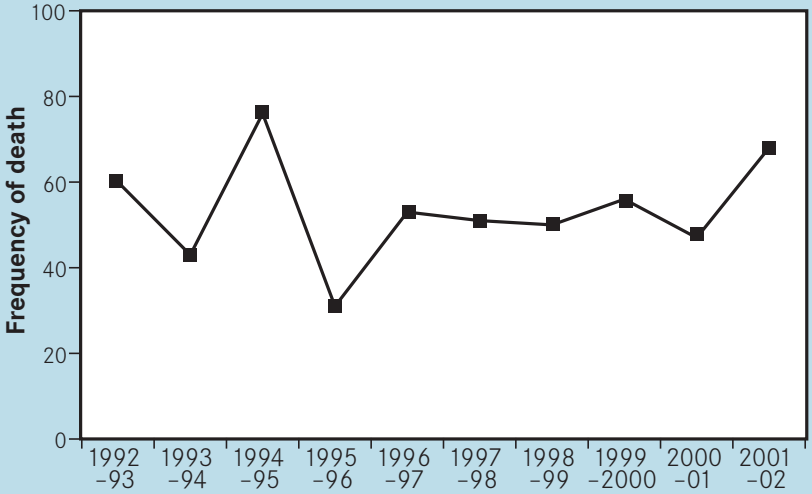
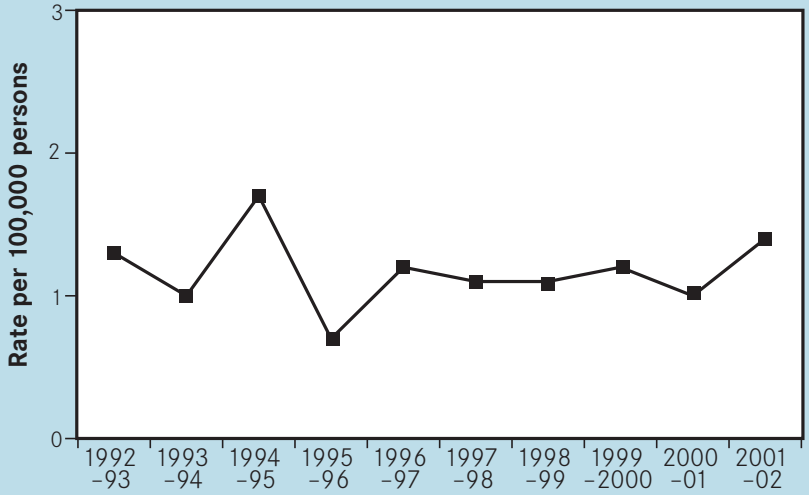
Assaultive injury: deaths

Yearly trend in the frequency of assaultive injury deaths, Victoria, 1992–93 to 2001–02



Yearly trend in the rate of assaultive injury deaths, Victoria, 1992–93 to 2001–02



Selection criteria: An ICD-9 cause of death code in the range 960–969 or an ICD-10 code in the range X85–Y09.
Source: Australian Bureau of Statistics–Death Unit Record File, July 1992 – June 2002.

- In 2001–02, 68 persons died in Victoria due to assaultive injury, an age adjusted death rate of 1.4 per 100,000 persons.
- Males accounted for 74 per cent (n=50) of all assaultive injury deaths in 2001–02.
- The leading causes of assaultive injury deaths in 2001–02 were assault by sharp objects (n=29, 43 per cent) and assault by blunt object (n=13, 19 per cent).
- The frequency of assaultive injury deaths decreased by 5 per cent over the decade 1992–93 to 2001–02, from an average of 59.7 deaths per year in the period 1992–95 to 57 deaths per year in 2000–02.
- The assaultive injury death rate decreased by 8 per cent over the decade 1992–03 to 2001–02, from an average annual death rate of 1.3 per 100,000 persons in the period 1992–95 to 1.2 per 100,000 persons in 2000–02.

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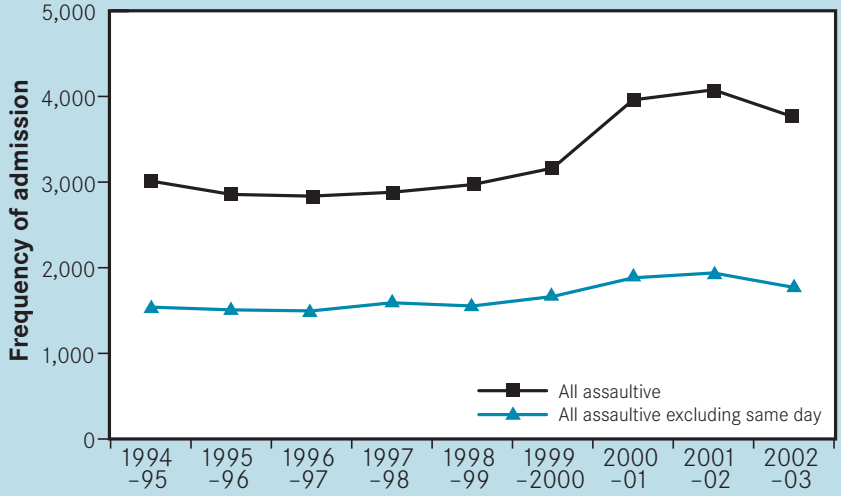
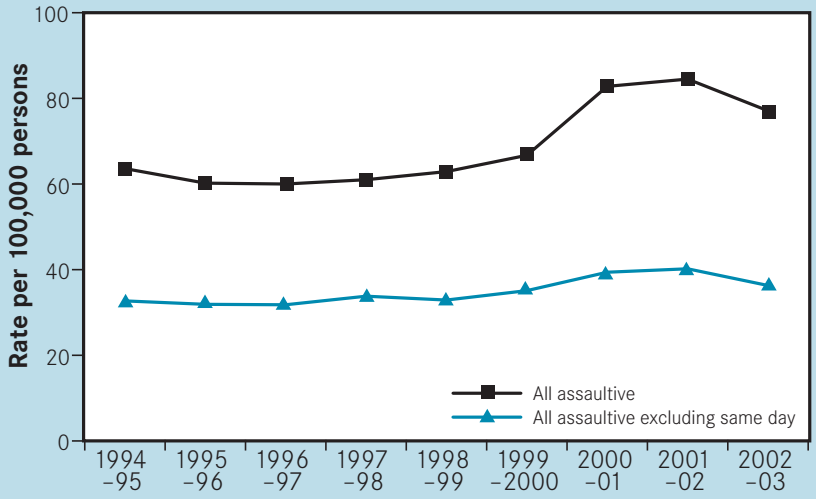
Assaultive injury: hospital admissions

Yearly trend in the frequency of assaultive injury hospital admissions, Victoria. 1994–95 to 2002–03



Yearly trend in the rate of assaultive injury hospital admissions, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 injury or poisoning diagnosis code in the range 800–904, 910–999 or an ICD-10 diagnosis code in the range S00–T89 if the cause of injury was assaultive. (2) Deaths and transfers within and between hospitals were excluded. (3) Same-day records were excluded from the final analysis, but are shown on figures.
Note: All assaultive excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 1,770 persons were admitted to Victorian hospitals due to assaultive injury, an age adjusted admission rate of 36.3 per 100,000 persons. These figures exclude 1,989 same-day hospitalisations.
- Males accounted for 78 per cent (n=1,376) of all assaultive injury hospital admissions in 2002–03.
- The leading causes of assaultive injury admissions in 2002–03 were bodily force (n=877, 50 per cent), sharp objects (n=284, 16 per cent) and blunt objects (n=211, 12 per cent).
- The frequency of assaultive injury admissions increased by 23 per cent over the nine-year period 1994–95 to 2002–03, from an average of 1,514 admissions in the period 1994–97 to 1,864 in 2001–03.
- The assaultive injury admission rate increased by 20 per cent over the nine-year period 1994–95 to 2002–03, from an average admission rate of 32 per 100,000 persons in the period 1994–97 to 38.6 per 100,000 persons in 2001–03.

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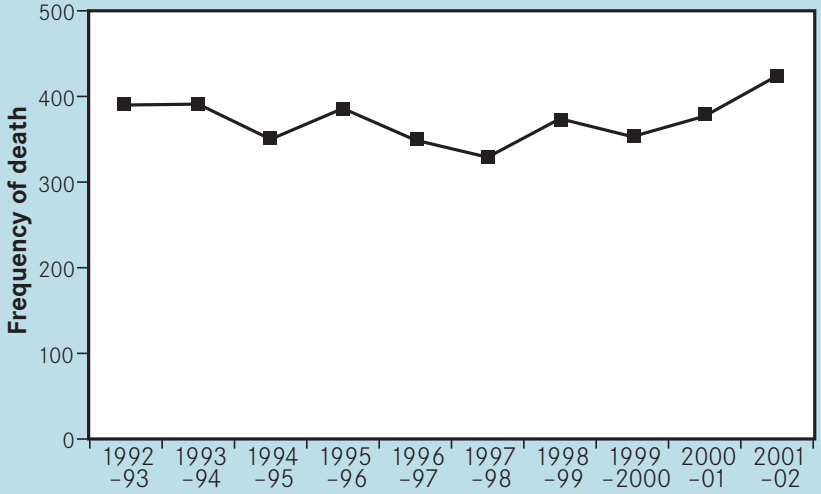
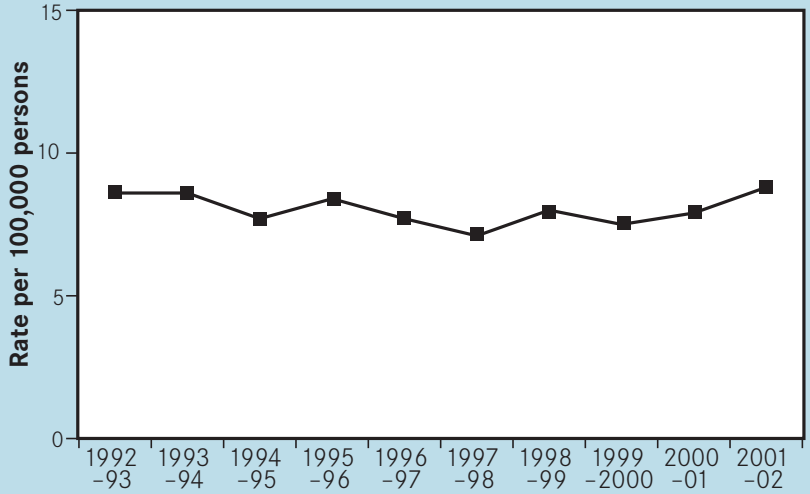
Unintentional motor vehicle traffic injury: deaths

Yearly trend in the frequency of unintentional motor vehicle traffic deaths, Victoria, 1992–93 to 2001–02



Yearly trend in the rate of unintentional motor vehicle traffic deaths, Victoria 1992–93 to 2001–02



Selection criteria: (1) An ICD-9 cause of death code in the range 810–819 (.0–.3, .7) or an ICD-10 cause of death code in the range V02–V04 (.1, .9), V09.2, V20–V28 (.3–.9), or V29(.4–.9), V40–V49 (.4–.9). These codes include only motor vehicle traffic deaths of car occupants, motorcyclists and pedestrians.
Note: All motor vehicle traffic includes car occupants, motorcyclists and pedestrians injured in motor vehicle incidents.
Source: Australian Bureau of Statistics–Death Unit Record File, July 1992 – June 2002.

- In 2001–02, 424 persons died in Victoria due to unintentional motor vehicle traffic (MVT) incidents, an age adjusted death rate of 8.8 per 100,000 persons.
- Males accounted for 72 per cent (n=307) of all unintentional MVT deaths in 2001–02.
- Two-thirds of persons fatally injured in unintentional MVT incidents in 2001–02 were car occupants (n=278, 66 per cent), 19 per cent were pedestrians (n=81) and the remaining 15 per cent were motorcyclists (n=65).
- The frequency of unintentional MVT deaths was relatively stable over the decade 1992–93 to 2001–02, increasing by 2 per cent from an average of 377 deaths per year in the period 1992–95 to 385 per year in 2000–02.
- The unintentional MVT death rate was also relatively stable, decreasing by 3 per cent over the decade 1992–93 to 2001–02, from an average annual death rate of 8.3 per 100,000 persons in the period 1992–95 to 8 per 100,000 persons in 2000–02.

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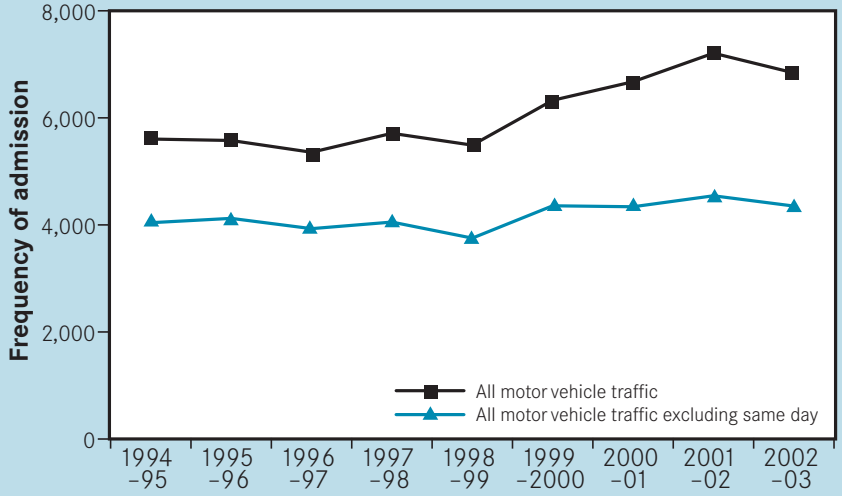
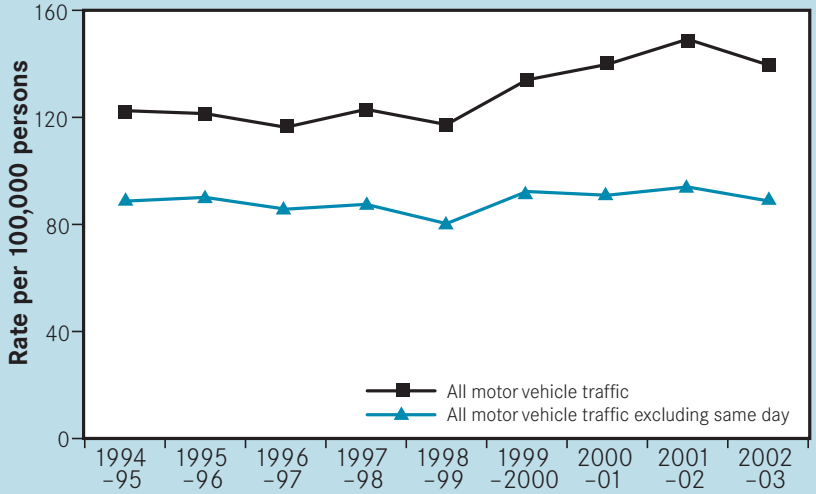
Unintentional motor vehicle traffic injury: hospital admissions

Yearly trend in the frequency of unintentional motor vehicle traffic hospital admissions, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of unintentional motor vehicle traffic hospital admissions, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 first external cause code in the range 810–819 (.0–.3, .7) or an ICD-10 first external cause code in the range V02–V04 (.1, .9), V09.2, V20–V28 (.3–.9), or V29(.4–.9), V40–V49 (.4–.9). These codes include motor vehicle traffic injuries to car occupants, motorcyclists and pedestrians. (2) Deaths and transfers within and between hospitals were excluded. (3) Same-day records were also excluded from the final analysis, but are shown on figures.
Note: All motor vehicle traffic includes car occupants, motorcyclists and pedestrians injured in motor vehicle traffic accidents and excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 4,352 persons were admitted to Victorian hospitals due to unintentional motor vehicle traffic (MVT) injury, an age adjusted admission rate of 89 per 100,000 persons. These figures exclude 2,488 same-day hospitalisations.
- Males accounted for 61 per cent (n=2,655) of all unintentional MVT injury hospital admissions in 2002–03.
- Almost two-thirds of persons injured in unintentional MVT incidents in 2002–03 were car occupants (n=2,794, 64 per cent), 22 per cent were motorcyclists (n=962) and the remaining 14 per cent were pedestrians (n=596).
- The frequency of unintentional MVT injury admissions increased by 9 per cent over the nine-year period 1994–95 to 2002–03, from an average of 4,031 admissions in the period 1994–97 to 4,412 in 2001–03.
- There was little change in the unintentional MVT injury admission rate over the nine-year period 1994–95 to 2002–03, increasing by 4 per cent from an average admission rate of 88 admissions per 100,000 persons in the period 1994–97 to 91 per 100,000 persons in 2001–03.

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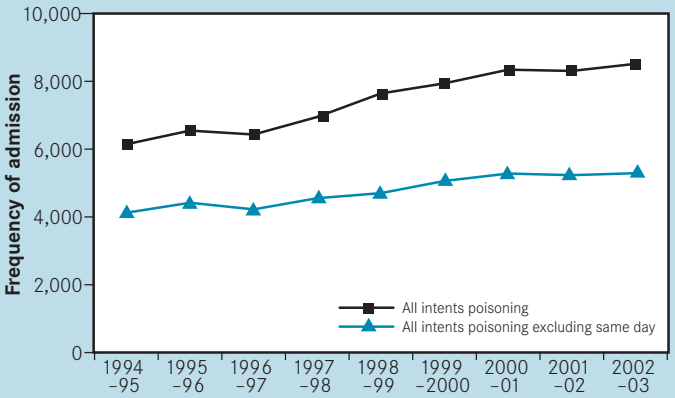
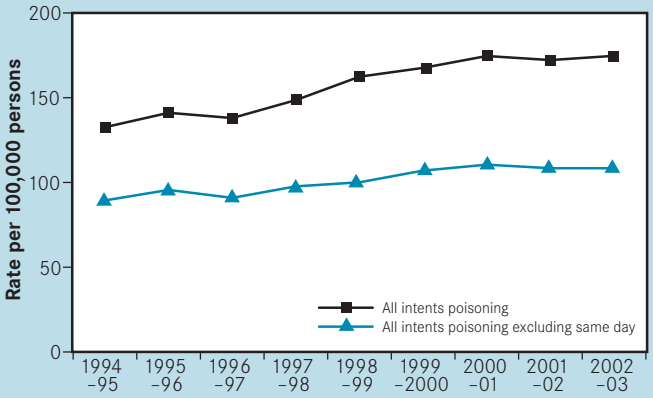
Poisoning (all intents)

Yearly trend in the frequency of poisoning (all intents) hospital admissions, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of poisoning (all intents) hospital admissions, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 first external cause diagnosis code in the range 850–858, 950–959, 962–962.9, 980–982.9 or an ICD-10 first external cause code in the range X40–X49, X60–X69, X85–X90, Y10–Y19. (2) Deaths and transfers within and between hospitals were excluded. (3) Same-day records were also excluded from the final analysis, but are shown on figures.

Note: All intents poisoning excludes deaths, transfers and records missing injury as a primary diagnosis.

Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- All poisoning cases regardless of intent were selected. Separate indicators for unintentional and intentional poisoning were not developed due to reservations about the reliability of coding for intent for adolescent and adult poisoning.
- In 2002–03, 5,290 persons were admitted to Victorian hospitals due to poisoning (excluding medical), an age adjusted admission rate of 108 per 100,000 persons. These figures exclude 3,226 same-day hospitalisations.
- Females accounted for 61 per cent (n=3,249) of poisoning hospital admissions in 2002–03.
- The leading causes of poisoning admissions in 2002–03 were intentional self-poisoning by pharmaceuticals (n=2,814, 53 per cent), accidental poisoning by antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs (n=572, 11 per cent), accidental poisoning by other and unspecified drugs, medicaments and biological substances (n=374, 7 per cent) and accidental poisoning by other and unspecified chemicals and noxious substances (n=259, 5 per cent).
- The frequency of poisoning admissions increased by 24 per cent over the nine-year period 1994–95 to 2002–03, from an average of 4,255 admissions in the period 1994–97 to 5,267 in 2001–03.
- The poisoning admission rate increased by 19 per cent over the nine-year period 1994–95 to 2002–03, from an average admission rate of 92 per 100,000 persons in the period 1994–97 to 109 per 100,000 persons in 2001–03.

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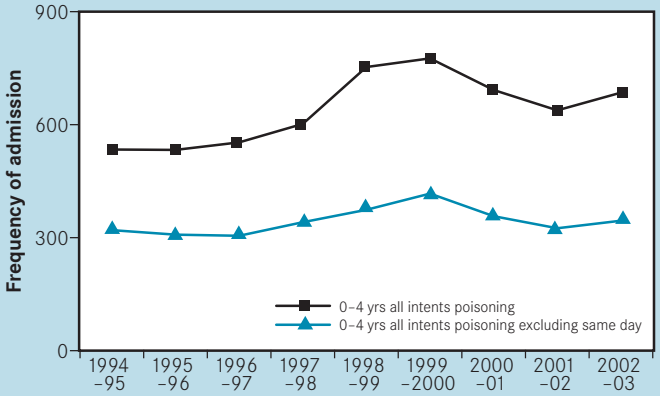
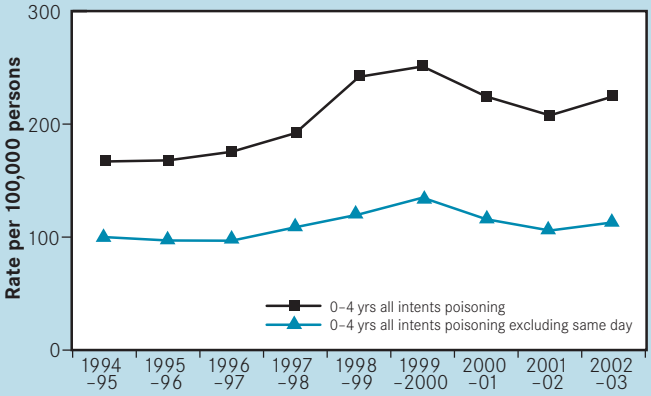
Poisoning (all intents) in persons aged 0–4 years

Yearly trend in the frequency of poisoning (all intents) hospital admissions in persons aged 0–4 years, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of poisoning (all intents) hospital admissions in persons aged 0–4 years, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 first external cause diagnosis code in the range 850–858, 950–959, 962–962.9, 980–982.9 or an ICD-10 first external diagnosis cause code in the range X40–X49, X60–X69, X85–X90, Y10–Y19 if the person was aged 0–4 years. (2) Deaths and transfers within and between hospitals were excluded. (3) Same-day records were excluded from the final analysis, but are shown on figures.
Note: All intents poisoning excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 345 persons aged 0–4 years were admitted to Victorian hospitals due to poisoning (excluding medical), an age adjusted admission rate of 113 per 100,000 persons. These figures exclude 340 same-day hospitalisations.
- Males accounted for 53 per cent (n=182) of all these poisoning hospital admissions in 2002–03.
- The leading causes of these poisoning admissions in children 0–4 years in 2002–03 were unintentional poisoning by other and unspecified drugs, medicaments and biological substances (n=111, 32 per cent) and unintentional poisoning by antiepileptic, sedative-hypnotic, antiparkinsonism and psychotrophic drugs (n=88, 26 per cent).
- The frequency of poisoning admissions increased by 10 per cent over the nine-year period 1994–95 to 2002–03, from an average of 311 admissions in the period 1994–97 to 342 in 2001–03.
- The poisoning admission rate increased by 14 per cent over the nine-year period 1994–95 to 2002–03, from an average rate of 98 per 100,000 persons in the period 1994–97 to an average rate of 112 per 100,000 persons in 2001–03.

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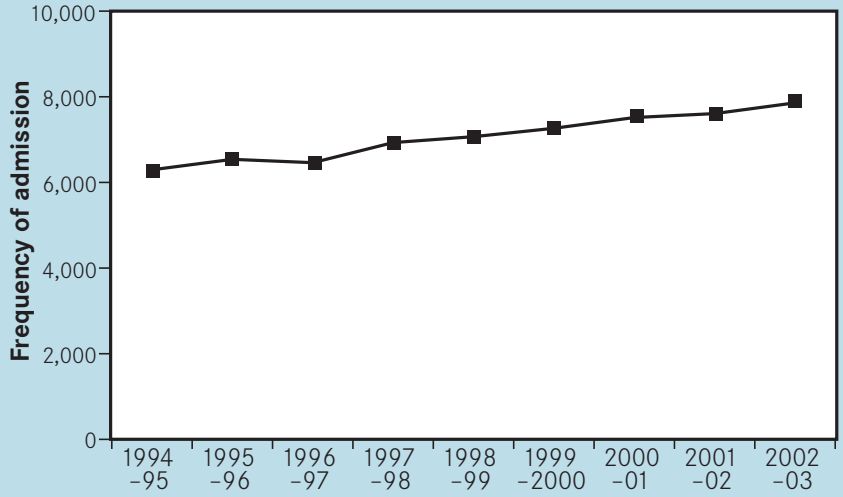
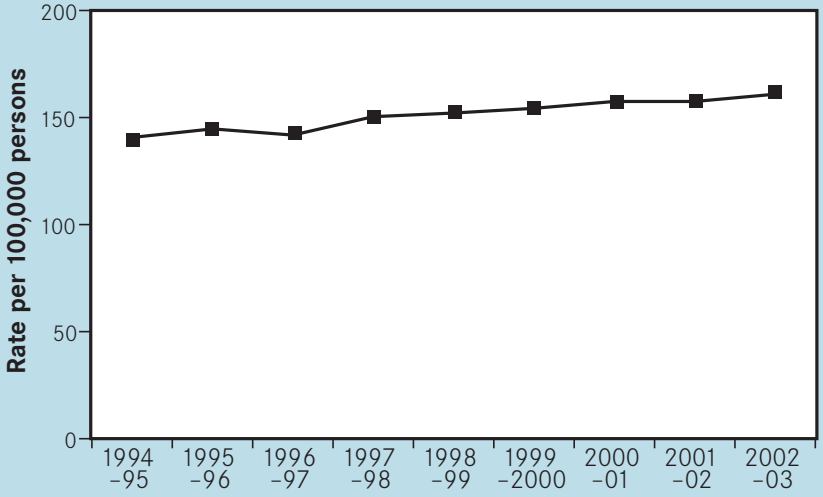
Unintentional injury-related forearm and wrist fracture

Yearly trend in the frequency of unintentional injury-related forearm and wrist fracture hospital admissions, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of unintentional injury-related forearm and wrist fracture hospital admissions, Victoria, 1994–95 to 2002–03



Selection criteria: An ICD-9 injury diagnosis code in the range 813–814 or an ICD-10 diagnosis code in the range S52.0–S52.9, S62.0–S62.1 if the injury was unintentional. (2) Deaths and transfers within and between hospitals were excluded.
Note: All forearm and wrist fractures excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 7,858 persons were admitted to Victorian hospitals with unintentional injury-related wrist and forearm fracture, giving an age adjusted admission rate of 161 per 100,000 persons.
- Males were slightly over-represented, accounting for 51 per cent (n=4,039) of all unintentional injury-related wrist and forearm fracture hospital admissions in 2002–03.
- The leading cause of unintentional injury-related wrist and forearm fracture admissions in 2002–03 was falls (n=6,174, 79 per cent). The most frequent causes of falls were slips, trips or stumbles (n=1,251, 20 per cent) and mishaps involving playground equipment (n=956, 15 per cent).
- The frequency of unintentional injury-related wrist and forearm fracture admissions increased by 19 per cent over the nine-year period 1994–95 to 2002–03, from an average of 6,432 admissions in the period 1994–97 to 7,660 in 2001–03.
- The unintentional injury-related wrist and forearm fracture admission rate increased by 11 per cent over the nine-year period 1994–95 to 2002–03, from an average admission rate of 142.4 per 100,000 persons in the period 1994–97 to 158.6 per 100,000 persons in 2001–03.

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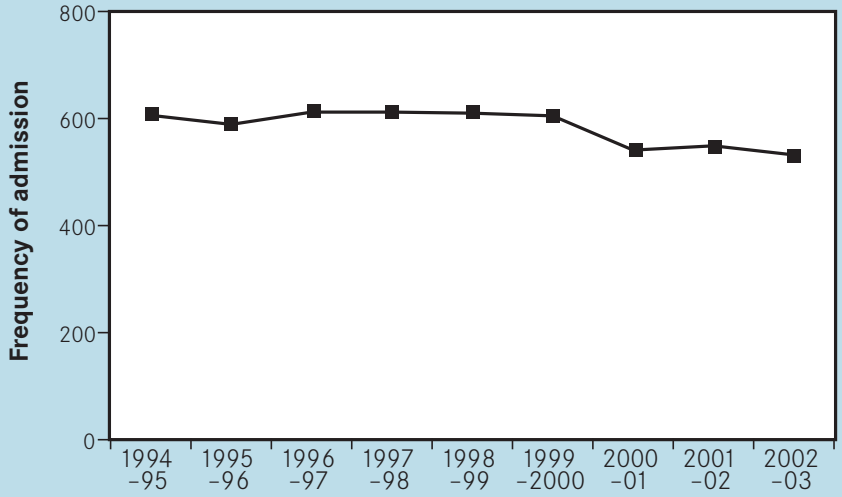
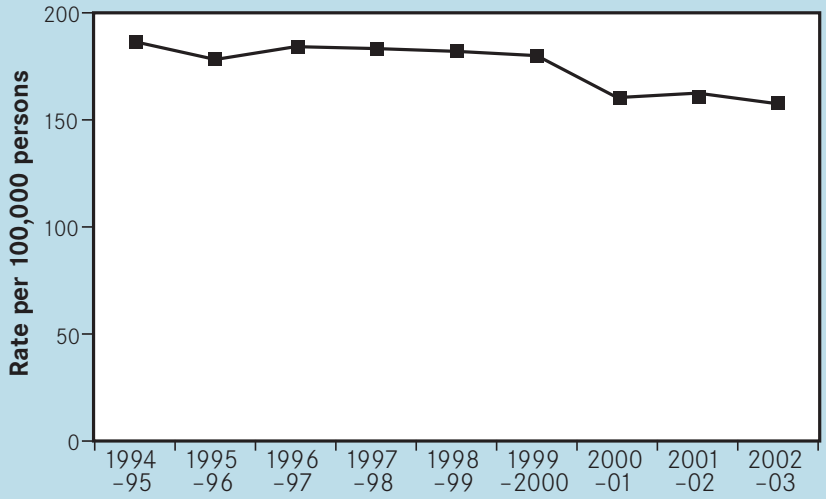
Unintentional injury-related hip fracture in persons aged 65–74 years

Yearly trend in the frequency of unintentional injury-related hip fracture hospital admissions in persons aged 65–74 years, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of unintentional hip fracture hospital admissions in persons aged 65–74 years, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 injury diagnosis code in the range 820–820.9 or an ICD-10 injury diagnosis code in the range S72.0–S72.2 if the cause of injury was unintentional and the person was aged 65–74 years. (2) Deaths and transfers within and between hospitals were excluded.
Note: All hip fractures excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Depaertment of Human Services, Victorian Admitted Episodes–Dataset, July 1994 – June 2003.

- In 2002–03, 532 persons aged 65–74 years were admitted to Victorian hospitals with unintentional injury-related hip fracture, an age adjusted admission rate of 158 per 100,000 persons.
- Females accounted for 67 per cent (n=356) of injury-related hip fracture hospital admissions.
- The leading cause of injury-related hip fracture in persons aged 65–74 years in 2002–03 was falls, accounting for 92 per cent of all hospital admissions (n=491). Falls were commonly the result of slips, trips and stumbles (n=186, 38 per cent).
- The frequency of unintentional injury-related hip fracture admissions in persons aged 65–74 years decreased by 10 per cent over the nine-year period 1994–95 to 2002–03, from an average of 602 admissions in the period 1994–97 to an average of 541 admissions in 2001–03.
- The unintentional injury-related hip fracture admission rate in persons aged 65–74 years decreased by 13 per cent over the nine-year period 1994–95 to 2002–03, from an average rate of 183 per 100,000 persons in the period 1994–97 to 160 per 100,000 persons in 2001–03.

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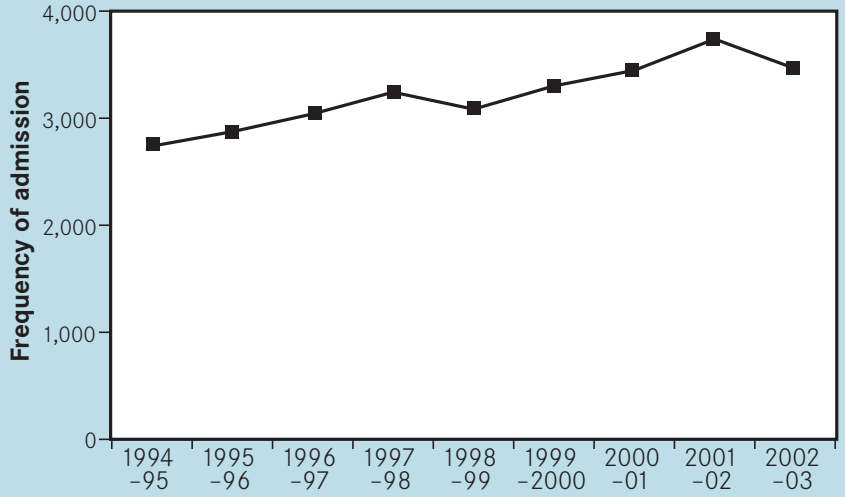
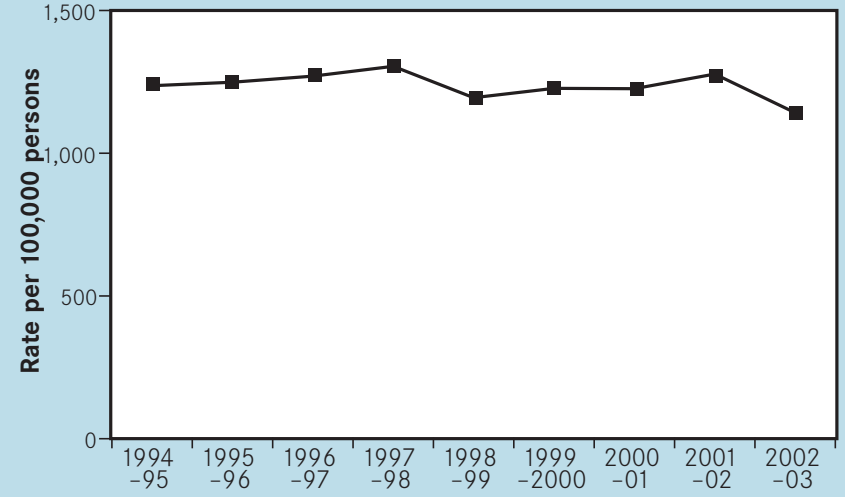
Unintentional injury-related hip fracture in persons aged 75 years and older

Yearly trend in the frequency of unintentional injury-related hip fracture hospital admissions in persons aged 75 years and older, Victoria, 1994–95 to 2002–03



Yearly trend in the rate of unintentional injury-related hip fracture hospital admissions in persons aged 75 years and older, Victoria, 1994–95 to 2002–03



Selection criteria: (1) An ICD-9 injury diagnosis code in the range 820–820.9 or an ICD-10 injury diagnosis code in the range S72.0–S72.2 if the cause of injury was unintentional and the person aged 75 years or older. (2) Deaths and transfers within and between hospitals were excluded.
Note: All hip fractures excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1994 – June 2003.

- In 2002–03, 3,463 persons aged 75 years and older were admitted to Victorian hospitals with unintentional injury-related hip fracture, an age adjusted admission rate of 1,142 per 100,000 persons.
- Females accounted for 78 per cent (n=2,684) of unintentional injury-related hip fracture hospital admissions in 2002–03.
- The leading cause of unintentional injury-related hip fracture in persons aged 75 years and older in 2002–03 was falls, accounting for 98 per cent of all hospital admissions (n=3,376). Falls were commonly the result of slips, trips and stumbles (n=1,174, 35 per cent).
- The frequency of unintentional injury-related hip fracture admissions in persons aged 75 years and older increased by 24 per cent over the nine-year period 1994–95 to 2002–03, from an average of 2,884 in the period 1994–97 to 3,550 in 2001–03.
- There was little change in the unintentional injury-related hip fracture admission rate in persons aged 75 years and older over the nine-year period 1994–95 to 2002–03. The rate decreased by 3 per cent, from an average rate of 1,215 per 100,000 persons in the period 1994–97 to 1,252 per 100,000 persons in 2001–03.

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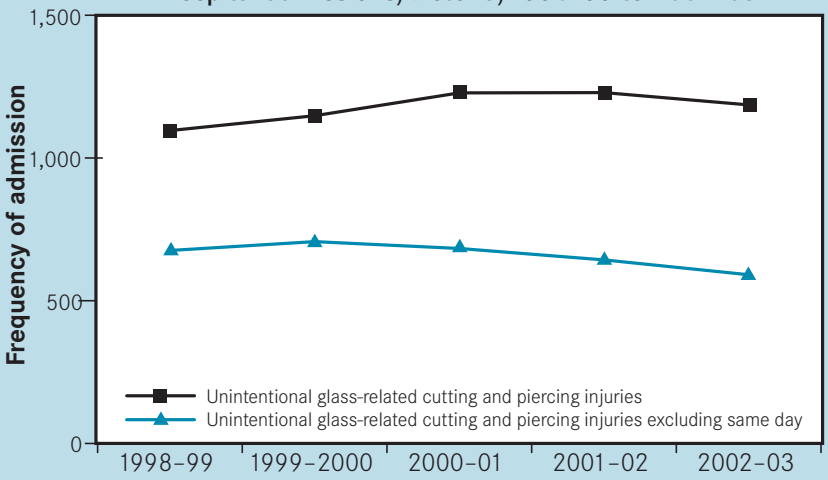
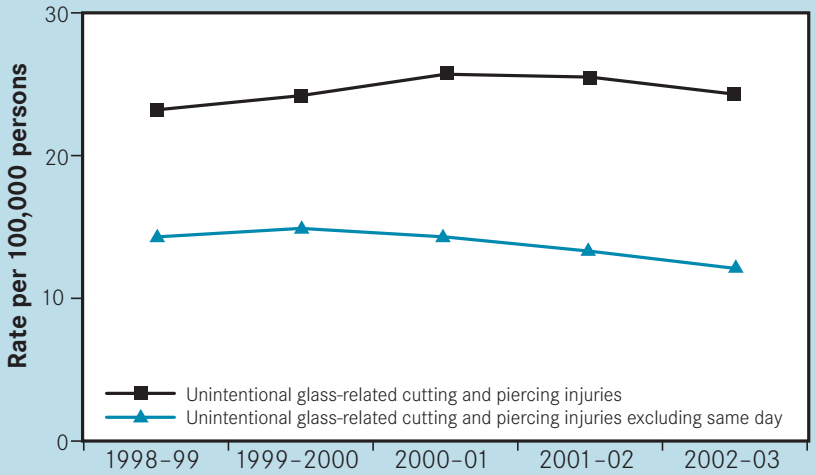
Unintentional glass cutting and piercing injury

Yearly trend in the frequency of unintentional glass cutting and piercing hospital admissions, Victoria, 1998–99 to 2002–03



Yearly trend in the rate of unintentional glass cutting and piercing hospital admissions, Victoria, 1998–99 to 2002–03



Selection criteria: (1) An ICD-10 first external cause diagnosis code of W25. There is no equivalent code in ICD-9. (2) Deaths and transfers within and between hospitals were excluded. (3) Same-day records were excluded from the final analysis, but are shown on figures.
Note: Glass-related injury excludes deaths, transfers and records missing injury as a primary diagnosis.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, July 1998 – June 2003.

- In 2002–03, 591 persons were admitted to Victorian hospitals due to glass cutting and piercing injury, an age adjusted admission rate of 12 per 100,000 persons. These figures exclude 1,186 same-day records that occurred in 2002–03.
- Males accounted for 74 per cent (n=439) of all glass cutting and piercing injury hospital admissions in 2002–03.
- The frequency of glass cutting and piercing injury admissions decreased by 23 per cent between 1998–99 and 2002–03, from 676 admissions to 591 admissions.
- The glass cutting and piercing injury admission rate decreased by 15 per cent between 1998–99 and 2002–03, from a rate of 14 to 12 per 100,000 persons.

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Mental Health

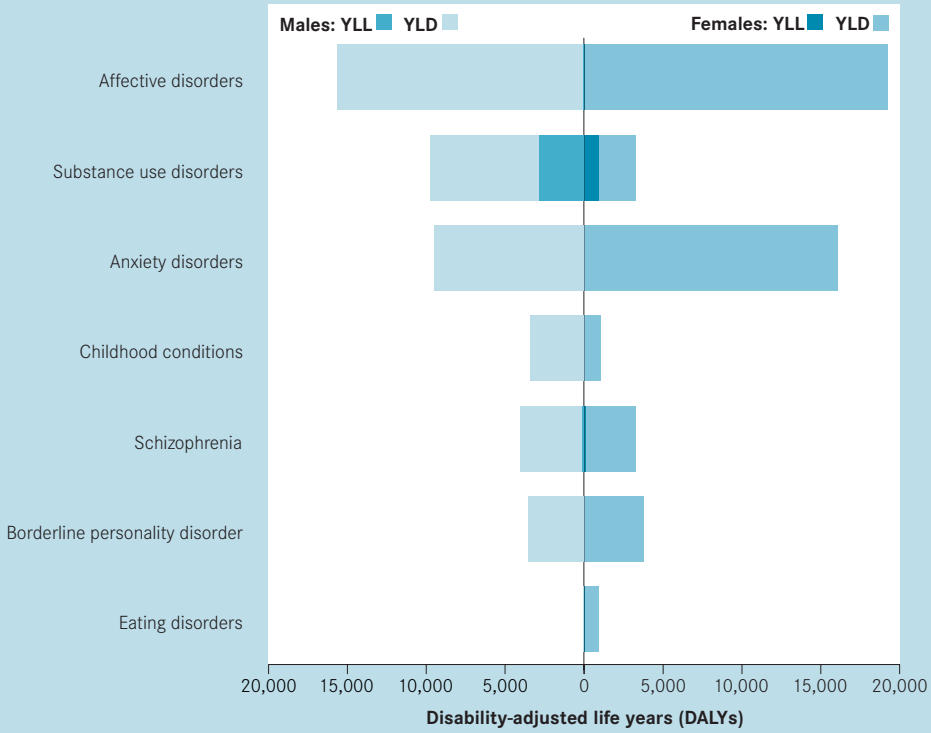
In this chapter

Summary

- Mental illness was responsible for about 15 per cent of the total disease burden in 2001, or 46,390 DALYs in males and 48,027 DALYs in females. Less than 5 per cent of this attributable burden is due to premature mortality, largely due to substance use disorders.
- Affective and substance use disorders together account for almost 80 per cent of the burden attributable to mental illness.
- In males, depression ranks as the fifth leading cause of overall burden, while the fifteenth and seventeenth to twentieth ranks are occupied by schizophrenia, generalised anxiety disorder, alcohol dependence, heroin or poly-drug use, and borderline personality disorder.
- In females, depression ranks as the fourth leading cause of overall burden, while generalised anxiety disorder, borderline personality disorder and schizophrenia rank eleventh, fifteenth and eighteenth, respectively.
- In 2004, more than 3 per cent of Victorians aged 18 years or over had scores of 30 or greater on the Kessler 10 scale and were classified as likely to be at high risk of being affected by psychological distress.
- There were 45,664 hospital separations for males with a mental health-related principal diagnosis in 2003–04, a rate of 187.8 separations per 10,000 males. These separations accounted for 404,676 patient days. Among females, there were 73,540 hospital admissions in 2003–04, a rate of 293.9 separations per 10,000 females.

Burden of mental illness

The burden of mental illness (YLL, YLD and DALYs) by disorder and sex, Victoria, 2001



	Males			Females		
Mental illness	**DALYs**	**YLLs**	**YLDs**	**DALYs**	**YLLs**	**YLDs**
Eating disorders	62	–	62	949	3	945
Borderline personality disorder	3,530	–	3,530	3,803	–	3,803
Schizophrenia	4,040	90	3,950	3,256	96	3,159
Childhood conditions	3,421	–	3,421	1,057	–	1,057
Anxiety disorders	9,474	–	9,474	16,102	–	16,102
Substance use disorders	9,773	2,827	6,946	3,304	900	2,404
Affective disorders	15,672	41	15,631	19,276	62	19,215
TOTAL	**46,390**	**3,079**	**43,311**	**48,027**	**1,138**	**46,889**

Note: DALYs = disability-adjusted life years; YLLs = years of life lost; YLDs = years lived with disability.

Mental illness was responsible for about 15 per cent of the total disease burden in Victoria in 2001, or 46,390 DALYs in males and 48,027 DALYs in females. Less than 5 per cent of this attributable burden is due to premature mortality; most can be accounted for by fatal outcomes associated with substance use disorders. The picture is dominated by affective and substance use disorders, which account for almost 80 per cent of the burden attributable to mental illness. In males, depression ranks as the fifth leading cause of overall burden, while the fifteenth and seventeenth to twentieth ranks are occupied by schizophrenia, generalised anxiety disorder, alcohol dependence, heroin or poly-drug use and borderline personality disorder. In females, depression ranks as the fourth leading cause of overall burden, while generalised anxiety disorder, borderline personality disorder and schizophrenia ranked eleventh, fifteenth and eighteenth, respectively.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

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Measurement of psychological distress

Good mental health is fundamental to the wellbeing of individuals, their families and the wider community. Findings from the 2001 national health survey (Australian Bureau of Statistics, 2003) indicate that anxiety-related problems and mood (affective) problems were the most commonly reported mental health and behavioural problems. Australia-wide, these problems were each reported by 4.5 per cent of respondents (Australian Bureau of Statistics, 2003). Psychological distress has a major effect on the ability of people to work, study and manage their everyday activities.

The Victorian population health survey includes the Kessler 10 (K10), a measure designed to assess non-specific psychological distress. It has been validated as a simple indicator of anxiety, depression and worry at a population level (Kessler, Andrews, Colpe et al., 2002). There are ten questions that collect information on the degree of non-specific psychological distress that a person might have experienced in the four weeks before the interview. Deriving a total score on the K10 is based on how frequently in the last four weeks an individual reports having experienced negative emotional states. A K10 score provides a guide to the degree of psychological distress experienced by an individual and in general, the higher the K10 score, the greater the likelihood that a person has psychological distress. The maximum score of 50 indicates severe psychological distress and the minimum score indicates no distress, however, because the K10 instrument is a tool, anyone experiencing depression, anxiety or worry should be properly assessed by a mental health professional.

References

Australian Bureau of Statistics, 2003, *National health survey 2001: mental health*, Australian Bureau of Statistics, Catalogue no 4811.0, Canberra.

Kessler, RC., Andrews, GC., Colpe, IJ., Hiripi, E., Mroczek, DK., Normand, SL., Walters, EE. and Zaslavsky, AM., 2002, 'Short screening scales to monitor population prevalences and trends in non-specific psychological distress', in *Psychological Medicine*, Volume 32, pp. 959–76.

Psychological distress levels

More than 3 per cent of persons aged 18 years or over had scores of 30 or greater on the K10 in 2004, and were classified as likely to be at high risk of being affected by psychological distress. For reporting purposes, the middle risk level was divided into an upper range (K10 scores of 16–21) and a lower range (K10 scores of 22–29). Almost 9 per cent of adults in Victoria had scores in the upper range of the middle risk category and 20.5 per cent had scores in the lower range. Almost two-thirds (65.1 per cent) of the population aged 18 years or over reported low levels of psychological distress (68.6 per cent of males and 61.7 per cent of females).

For both males and females, the prevalence of higher K10 scores was generally lower among persons in older age groups. Persons aged 65 years or over were also more likely to have K10 scores in the low risk category, with 81.7 per cent of males and 70.6 per cent of females in this age group achieving such scores. The proportion of females with scores in the high risk category was greatest in the age group 18–24 years. More than 5 per cent of females in the 18–24 year age group had scores likely to be associated with very high psychological distress, compared with approximately 2 per cent of males. Males in the 35–44 year age group were most likely to achieve scores indicating a high risk of having a mental disorder. The proportion of females with very high scores (30+) on the K10 was greater than the proportion of males with such scores (4.2 per cent and 2.4 per cent respectively).

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey* 2004, www.health.vic.gov.au/healthstatus/vphs.htm

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Kessler 10 (K10) score category, by age and sex, Victoria, 2004

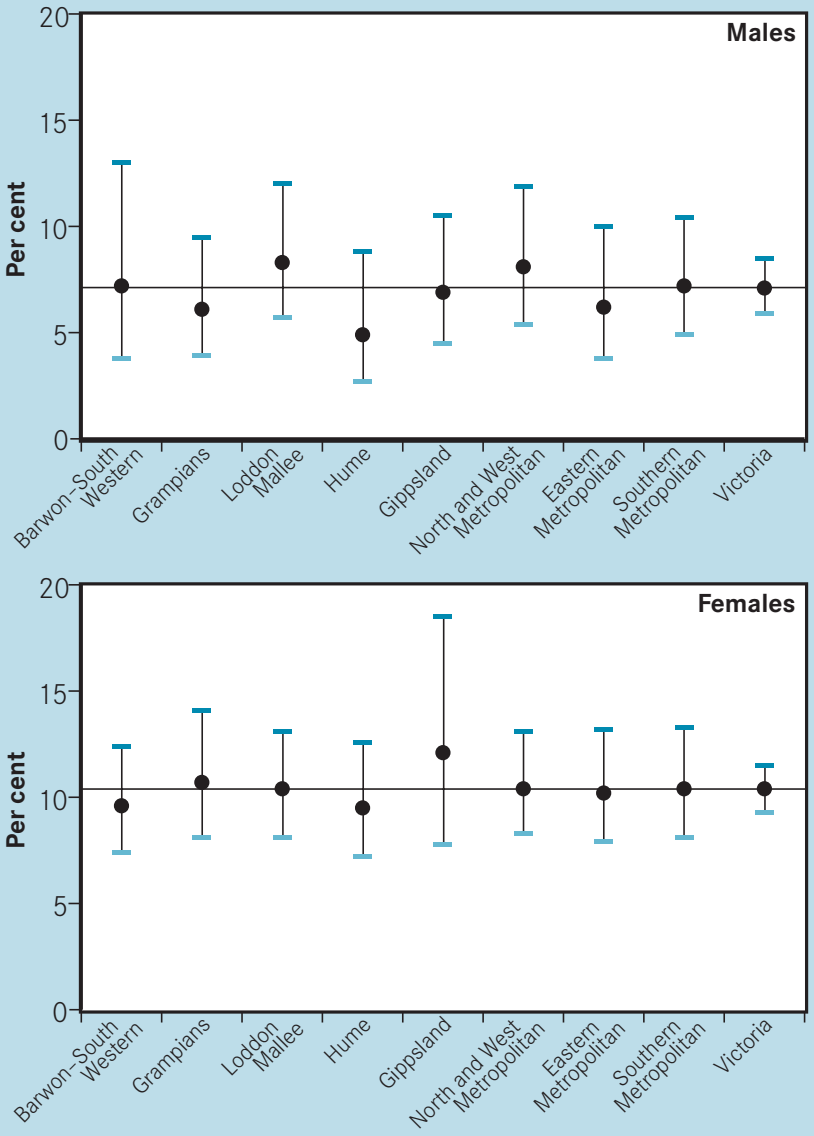
	<16		16–21		22–29		30+	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Males								
18–24	56.8	3.9	33.1	3.7	6.4	1.7	2.2	1.0
25–34	61.8	3.0	27.2	2.8	7.8	1.6	2.4	0.8
35–44	64.4	2.7	22.3	2.3	8.5	1.8	3.2	0.9
45–54	72.4	2.4	17.9	2.0	4.9	1.1	3.0	0.9
55–64	76.3	2.6	10.9	1.8	7.4	1.6	1.9	0.8
65+	81.7	2.0	8.2	1.4	4.3	1.1	1.4	0.5
Total males	**68.6**	**1.2**	**20.2**	**1.0**	**6.7**	**0.6**	**2.4**	**0.3**
Females								
18–24	44.5	3.3	30.1	3.0	19.5	2.6	5.3	1.4
25–34	58.0	2.2	22.6	1.7	13.0	1.6	4.6	0.9
35–44	63.2	2.0	21.3	1.7	9.3	1.2	3.9	0.8
45–54	62.4	2.2	21.0	1.8	10.2	1.5	3.6	0.8
55–64	67.7	2.5	17.0	1.9	7.5	1.5	5.4	1.2
65+	70.6	2.1	14.7	1.6	7.0	1.2	2.9	0.9
Total females	**61.7**	**1.0**	**20.8**	**0.8**	**10.8**	**0.6**	**4.2**	**0.4**
Persons								
18–24	50.7	2.6	31.6	2.4	12.9	1.6	3.7	0.9
25–34	59.8	1.8	24.9	1.6	10.4	1.1	3.5	0.6
35–44	63.8	1.7	21.8	1.4	8.9	1.1	3.5	0.6
45–54	67.3	1.6	19.5	1.3	7.6	1.0	3.3	0.6
55–64	72.0	1.8	13.9	1.3	7.5	1.1	3.7	0.7
65+	75.5	1.5	11.9	1.1	5.9	0.9	2.3	0.6
Total persons	**65.1**	**0.8**	**20.5**	**0.6**	**8.8**	**0.5**	**3.3**	**0.3**

Note: SE = standard error.

Source: Department of Human Services, *Victorian population health survey* 2004.

Professional help sought for mental health-related problems

Adults who reported seeking professional help for mental health-related problems during the last year, by sex and department region, Victoria, 2004



The Victorian population health survey asks respondents whether they have sought help for a mental health-related problem during the last year. Approximately 7 per cent of males reported having sought professional help in 2004. The proportion of males who had sought help ranged from 4.9 per cent in the Hume Region to 8.3 per cent in the Loddon Mallee Region.

Almost 13 per cent of females in Victoria in 2004 reported having sought professional help for a mental health-related problem during the previous year. The proportion of females who had sought help for a mental health problem was lowest in the Hume Region (9.5 per cent) and highest in the Gippsland Region (12.1 per cent).

There were no significant differences across the regions in the proportion of males or females who reported seeking help for a mental health-related problem during the year before the date of the survey interview.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, Melbourne, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

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Private psychiatrist visits

Private psychiatrist services subsidised through Medicare, by schedule item, Victoria, 2003–04

Patient attendances in consulting rooms MBS item no.	Description	Number of services	Per cent
300, 310	15 minutes or less	9,351	1.6
302, 312	16 to 30 minutes	78,429	13.7
304, 314	31 to 45 minutes	155,373	27.2
306, 316	46 to 75 minutes	283,518	49.6
308, 318	over 75 minutes	11,802	2.1
319	selected cases (> 45 minutes)	33,179	5.8
Total		**571,65**	**100.0**
Patient attendances in hospital **MBS item no.**	**Description**	**Number of services**	**Per cent**
320	15 minutes or less	5,773	10.4
322	16 to 30 minutes	21,721	39.3
324	31 to 45 minutes	15,085	27.3
326	46 to 75 minutes	11,350	20.5
328	over 75 minutes	1,329	2.4
Total		**55,258**	**100.0**
Patient attendances in other locations **MBS item no.**	**Description**	**Number of services**	**Per cent**
330	15 minutes or less	276	8.7
332	16 to 30 minutes	904	28.4
334	31 to 45 minutes	943	29.7
336	46 to 75 minutes	885	27.8
338	over 75 minutes	171	5.4
Total		**3,179**	**100.0**
Other services **MBS item no.**	**Description**	**Number of services**	**Per cent**
342, 344, 346	Group psychotherapy	23,933	96.0
348, 350, 352	Interview with non-patient	974	3.9
353–370	Telepsychiatry	34	0.1
Total		**24,941**	**100.0**
Total services		**655,030**	
Per 1,000 persons		**132.6**	

Note: Patient attendances in hospital includes private psychiatrist services delivered to patients admitted to hospital. Some of these services may be considered non-ambulatory. Some of the services included in the category 'other services' may have been delivered to patients admitted to hospital and may be considered to be non-ambulatory. Services for electro convulsive therapy have not been included as they are usually provided to non-ambulatory-equivalent admitted patients. See AIHW (2005) for further details of mental health-related separations. The rate per 1,000 persons is a crude rate based on the estimated resident population at 31 December 2003.

Source: Australian Institute of Health and Welfare, 2005, *Mental health services in Australia 2002–03*, Mental health series no 6, Canberra. Based on Medicare data from the Commonwealth Department of Health and Ageing.

Individuals may seek professional help for mental health-related problems from a range of sources including hospitals, community-based services, general practitioners and private psychiatrists.

There were 655,030 services provided to patients by private psychiatrists (and subsidised by Medicare) in 2003–04, equivalent to 132.6 services per 1,000 persons. Almost 90 per cent of private psychiatrist services were provided in psychiatrists' consulting rooms, rather than in hospitals or other locations. More than half of these services were longer than 45 minutes.

For more information

Australian Institute of Health and Welfare, 2005, *Mental health services in Australia 2002–03*, Mental health series no 6, Canberra, www.aihw.gov.au/publications/index.cfm/title/10101

Hospitalisations for mental health conditions

		Males				Females			
ICD-10-AM code	Principal diagnosis	Separations	Patient days	Patients	Separations per patient	Separations	Patient days	Patients	Separations per patient
F00–F03	Dementia	4,285	82,329	2,855	1.50	6,560	123,161	4,458	1.47
F04–F09	Other organic mental disorders	2,580	46,162	2,074	1.24	2,759	43,514	2,220	1.24
F10	Mental behavioural disorders due to alcohol	10,609	60,565	6,088	1.74	6,330	28,640	2,661	2.38
F11–F19	Mental behavioural disorders due to other psychoactive substances use	4,873	45,097	3,400	1.43	4,108	29,801	2,470	1.66
F20	Schizophrenia	5,349	75,879	2,745	1.95	4,275	52,502	1,758	2.43
F21–F29	Other schizophrenic, schizotypal, delusional disorders	2,882	31,888	1,722	1.67	4,437	40,421	1,790	2.48
F30	Manic episode	215	2,146	180	1.19	290	2,592	211	1.37
F31	Bipolar affective disorders	2,140	18,986	883	2.42	4,627	37,920	1,512	3.06
F32–F33	Depressive disorders	11,664	86,129	4,511	2.59	29,877	161,770	9,663	3.09
F34–F39	Other mood (affective) disorders	575	3,751	316	1.82	1,151	6,511	528	2.18
F40–F48	Neurotic, stress-related and somatoform disorders	8,230	45,235	4,378	1.88	15,535	87,121	8,596	1.81
F50	Eating disorders	115	887	49	2.35	2,425	15,486	466	5.20
F51–F59	Other behavioural syndromes associated with physiological disturbances, physical factors	156	1,082	141	1.11	1,247	6,785	913	1.37
F60–F69	Disorders of adult personality and behaviour	2,409	18,181	1,133	2.13	5,813	33,551	1,657	3.51
F70–F79	Mental retardation	334	3,375	268	1.25	508	4,541	334	1.52
F80–F89	Disorders of psychological development	251	1,779	197	1.27	235	1,227	106	2.22
F90–F98	Disorders onset usually occurring in childhood, adolescence	1,160	5,593	790	1.47	1,006	4,196	707	1.42
F99	Mental disorder not otherwise specified	108	4,295	99	1.09	849	2,977	821	1.03

Note: Hospital separations were selected which had a principal diagnosis of mental or behavioural disorders (ICD–10–AM diagnosis codes F00–F99).
Source: Department of Human Services, Victorian Admitted Episode Dataset, 2003–04 and the Victoria Data Linkage Study.

According to the 2001 national health survey, Australians experiencing mental and behavioural problems are more likely to be hospitalised than those without problems. The proportion of such persons admitted to hospital in the two weeks prior to the survey was 19.1 per cent for those with mental and behavioural problems, compared with 11.5 per cent for those without such problems. Further, those with very high levels of psychological distress (28.9 per cent) were more than twice as likely to be admitted to hospital as those with low levels (11.7 per cent).

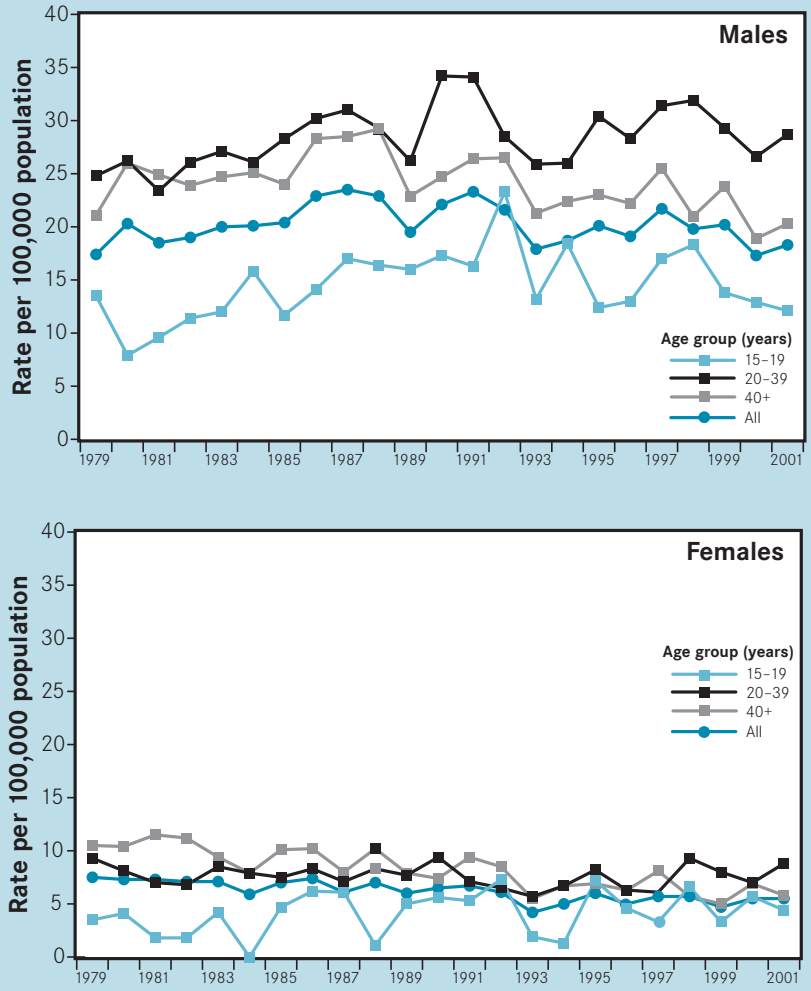
In Victoria in 2003–04, there were 45,664 hospital separations for males with a mental health-related principal diagnosis, a rate of 187.8 separations per 10,000 males. These separations accounted for 404,676 patient days. Among females, there were 73,540 hospital admissions in 2003–04, a rate of 293.9 separations per 10,000 females.

For more information

Australian Bureau of Statistics, 2003, *National health survey 2001: mental health*, Australian Bureau of Statistics Catalogue no 4811.0, Canberra.

Suicide deaths

Suicide deaths by sex, selected age groups and persons of all ages, Victoria, 1979–2001



Note: Deaths were classified using ICD–9 codes (950–960, 980–990) up to 1998 and ICD–10 codes (X60–X85; Y87.0; Y10–Y35) from 1999 onwards. Rates were directly standardised to Victorian 2001 population.
Source: Australian Bureau of Statistics mortality data and population estimates.

Suicide rates in Australia were ranked eleventh highest in the 26 OECD countries in 2001 (OECD, 2003).

The rate of suicide can fluctuate considerably from year to year, especially in small population groups. The death rate from suicide in Victoria in 2001 was 18.3 per 100,000 persons in males and 5.5 per 100,000 persons in females. The suicide death rate in males aged 15–19 years decreased by almost one-half (48.1 per cent) over the ten-year period from 1992 to 2001, from 23.3 deaths per 100,000 in 1992 to 12.1 deaths per 100,000 in 2001. In general, death rates from suicide are about three to four times greater in males than in females. This difference is thought to be due to the propensity of males to use more lethal methods compared with females, since the difference in rates at which males and females attempt suicide is smaller (OECD, 2003).

For more information

Organisation for Economic Cooperation and Development, 2003, *Health at a glance: OECD indicators 2003*, Paris.

Steenkamp, M. and Harrison, J., 2003, *Suicide and hospitalised self-harm in Australia*, Injury Research and Statistics Series, AIHW Catalogue no INJCAT 30, Adelaide.

Musculoskeletal conditions

In this chapter

Summary

- Musculoskeletal disease was responsible for 3 per cent of the total Victorian disease burden in 2001, or 7,114 DALYs in males and 11,121 in females.
- Osteoarthritis is the single biggest contributor, accounting for about 53 per cent of the overall burden attributable to musculoskeletal disease.
- In 2003–04, there were 1,251 hospital admissions for rheumatoid arthritis with an average of 4.8 bed days. The overall rate of hospital admission for rheumatoid arthritis has remained fairly constant since 1999–2000. Admission rates for rheumatoid arthritis were higher in rural areas than in metropolitan areas over the five-year period.
- In 2003–04, there were 18,049 hospital admissions for osteoarthritis with an average of 5.6 bed days. The overall rate of hospital admission for osteoarthritis has increased by 27.3 percent since 1999–2000. Admission rates for osteoarthritis were higher in rural areas than in metropolitan areas over the five-year period.
- In 2003–04, there were 2,094 hospital admissions (1,610 female and 484 male) for osteoporosis with an average of 6.7 bed days. The overall rate of hospital admission for osteoporosis has increased from 2.95 in 1999–2000 to 3.85 per 10,000 persons.

Introduction

Arthritis is a term used to refer to the many disorders of one or more joints. Arthritis disorders are part of a broader group of disorders of the muscles and bones, called musculoskeletal disorders.

Australian Health Ministers agreed to establish arthritis and musculoskeletal conditions as a new national health priority area (NHPA) at the Australian Health Ministers' Conference in July 2002. The three conditions that the new NHPA focuses on are osteoarthritis, rheumatoid arthritis and osteoporosis, the major conditions contributing to the national disease burden of bone and joint disorders.

For more information

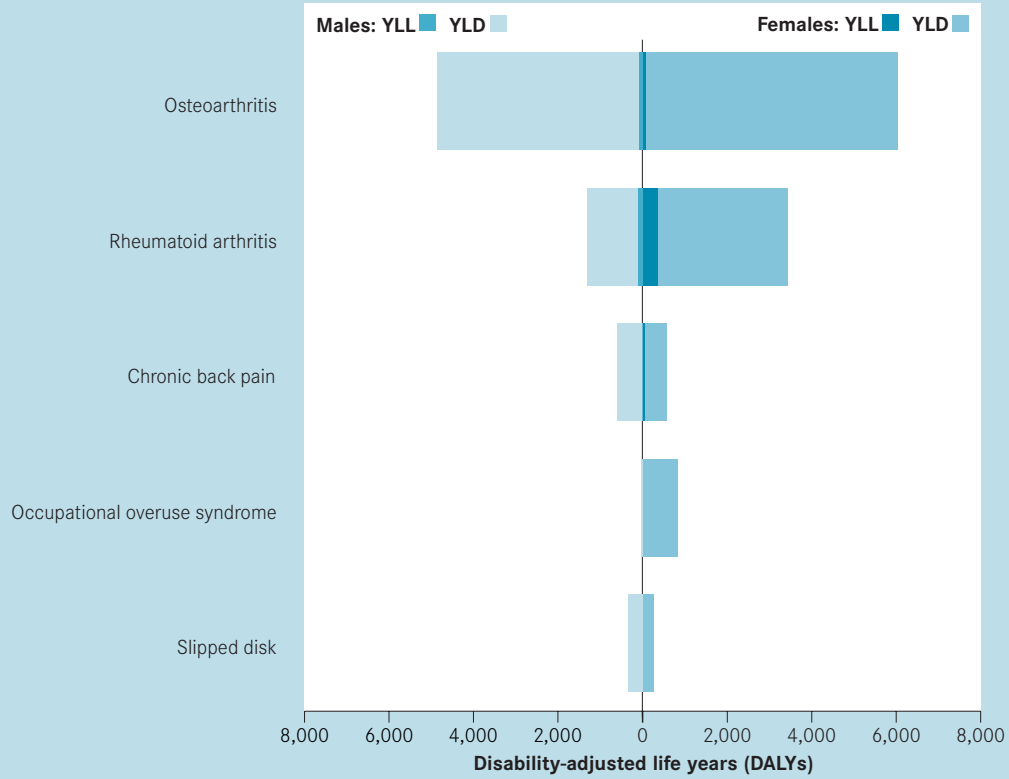
Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–2002*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/arthritis/index.htm

National Health Priority Action Council, www.nhpac.gov.au

Burden of musculoskeletal disease

The burden of musculoskeletal disease by condition and sex, Victoria, 2001



	Males			Females		
Musculoskeletal disease	**DALYs**	**YLLs**	**YLDs**	**DALYs**	**YLLs**	**YLDs**
Slipped disk	334	–	334	244	–	244
Occupational overuse syndrome	37	–	37	818	–	818
Chronic back pain	586	8	578	581	41	540
Rheumatoid arthritis	1,311	109	1,202	3,443	350	3,093
Osteoarthritis	4,847	82	4,765	6,036	75	5,961
TOTAL	**7,114**	**198**	**6,916**	**11,121**	**466**	**10,655**

Note: DALYs = disability-adjusted life years; YLLs = years of life lost; YLDs = years lived with disability.

Musculoskeletal disease was responsible for 3 per cent of the total Victorian disease burden in 2001, or 7,114 DALYs in males and 11,121 in females. Only 10 per cent of this attributable burden is due to mortality. Osteoarthritis is by far the single biggest contributor, accounting for about 53 per cent of the overall burden attributable to musculoskeletal disease. Osteoarthritis is the twelveth and fourteenth leading cause of the overall female and male burden, respectively. The larger female burden due to osteoarthritis is largely because of higher female life expectancy. For rheumatoid arthritis, it is largely because of the higher incidence of this condition in women.

For more information

Department of Human Services, *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

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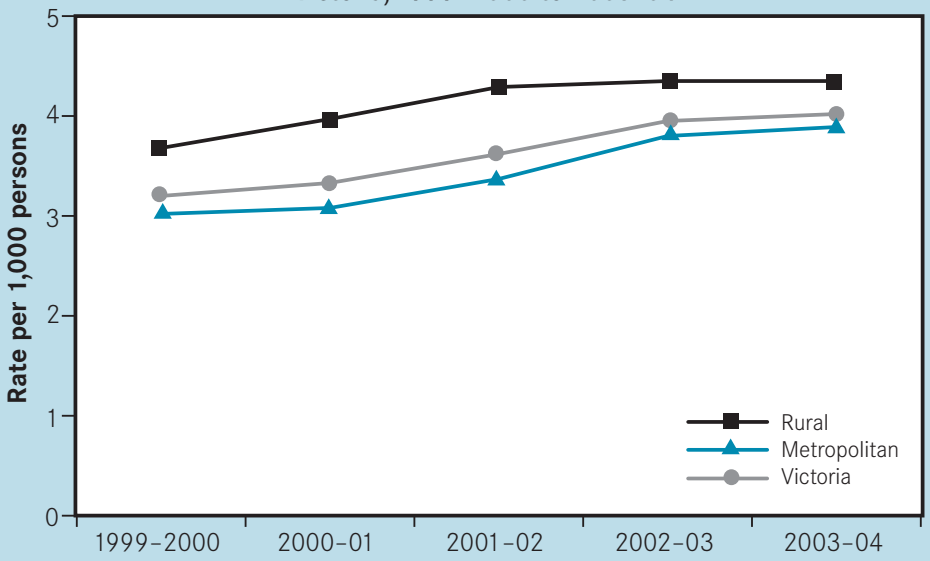
Hospital admissions for arthritis and musculoskeletal conditions

Arthritis and musculoskeletal conditions admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 1,000 persons	Rural	3.68	3.97	4.29	4.35	4.35
	Metro	3.02	3.08	3.37	3.80	3.89
	Victoria	3.20	3.33	3.62	3.95	4.02
Rural:Metro rate ratios (Metro=1)		**1.22**	**1.29**	**1.27**	**1.15**	**1.12**

Note: ICD-10-AM codes were used to identify all arthritis and musculoskeletal admissions in 1999–2000 to 2003–04. Arthritis and musculoskeletal conditions include rheumatoid arthritis, osteoarthritis and osteoporosis. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996.
Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

There were 21,394 admissions for arthritis and musculoskeletal conditions (osteoarthritis, rheumatoid arthritis and osteoporosis) as first (principal) diagnosis in 2003–04, with an average of 5.69 bed days. The overall admission rates for arthritis and musculoskeletal conditions varied, from 3.20 per 1,000 persons (3.15–3.25) in 1999–2000 to 4.02 per 1,000 persons (3.97–4.08) in 2003–04.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–2002*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/arthritis/index.htm

National Health Priority Action Council, www.nhpac.gov.au

Contact

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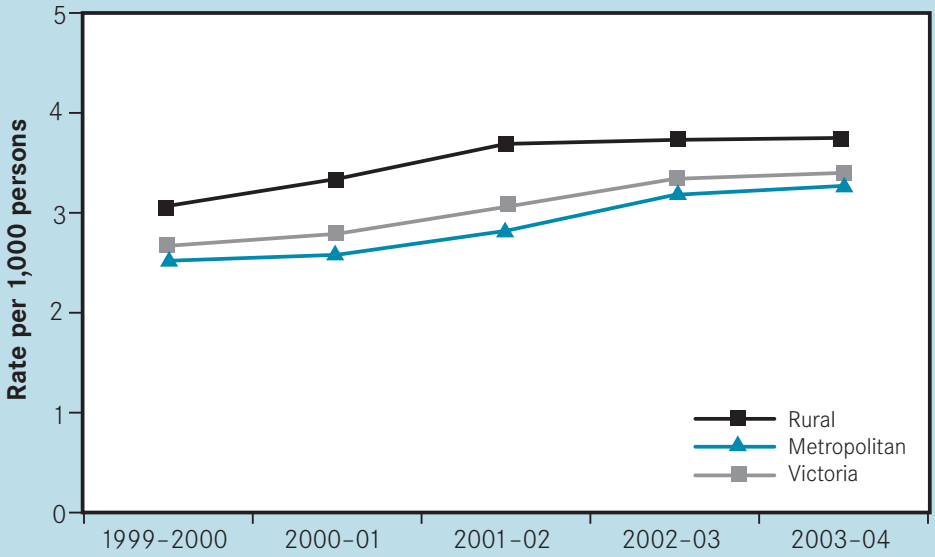
Osteoarthritis admissions

Osteoarthritis admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 1,000 persons	Rural	3.07	3.34	3.69	3.73	3.75
	Metro	2.52	2.58	2.82	3.18	3.27
	Victoria	2.67	2.79	3.06	3.34	3.40
Rural:Metro rate ratios (Metro=1)		**1.22**	**1.30**	**1.31**	**1.17**	**1.15**

Note: ICD–10–AM codes were used to identify osteoarthritis admissions in 1999–2000 to 2003–04. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996.

Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

Osteoarthritis is one of the most common types of arthritis, affecting the cartilage in the joints. Cartilage cushions the ends of bones where they meet to form a joint, but in osteoarthritis, this cartilage degenerates. Osteoarthritis is most commonly found in the knees, neck, lower back, hip and fingers. It most commonly develops between the ages of 45 and 90 years, and increases with age. By the age of 65 years, nearly 30 per cent of females and 18 per cent of males report having osteoarthritis. A history of trauma to the knee is a strong risk factor for the development of osteoarthritis.

There were 18,049 admissions for osteoarthritis in 2003–04, with an average of 5.6 bed days. The overall rate of admission for osteoarthritis has increased from 2.67 per 1,000 persons (2.62–2.71) in 1999–2000 to 3.40 per 1,000 persons (3.35–3.45) in 2003–04. This reflects a 27.3 per cent increase in total admission rates for osteoarthritis over the five-year period. Rural admission rates for osteoarthritis were higher than for metropolitan areas over the five-year period.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–2002*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/arthritis/index.htm

National Health Priority Action Council, www.nhpac.gov.au

Contact

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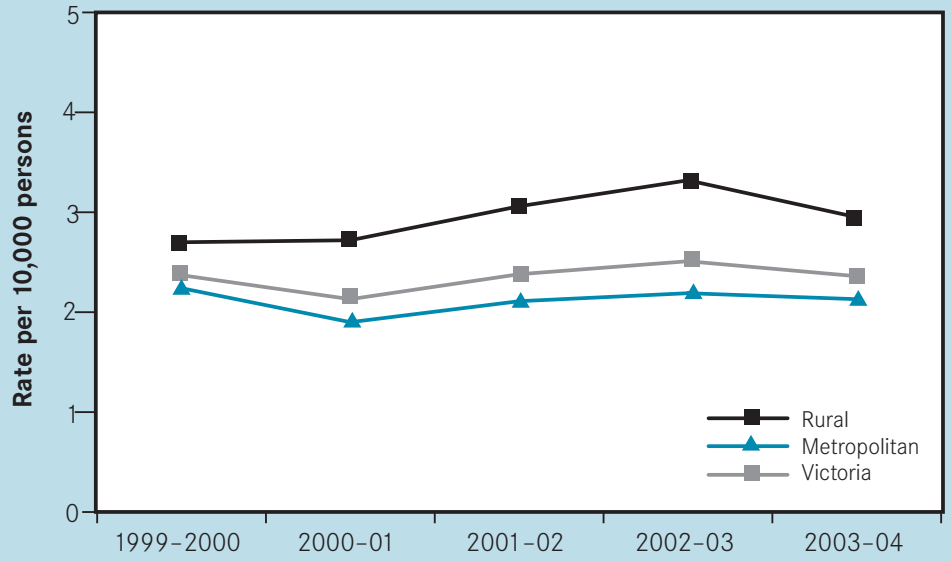
Rheumatoid arthritis admissions

Rheumatoid arthritis admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 10,000 persons	Rural	2.70	2.72	3.06	3.32	2.95
	Metro	2.24	1.90	2.11	2.19	2.13
	Victoria	2.37	2.13	2.38	2.51	2.36
Rural:Metro rate ratios (Metro=1)		**1.21**	**1.43**	**1.45**	**1.51**	**1.38**

Note: ICD–10–AM codes were used to identify rheumatoid arthritis admissions in 1999–2000 to 2003–04. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996.

Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

Rheumatoid arthritis is the most common form of inflammatory arthritis, characterised by joint swelling and destruction. In rheumatoid arthritis, the immune system attacks the tissues lining the joints and inflammation occurs, causing pain, heat and swelling. Juvenile rheumatoid arthritis occurs in children. The disease resembles adult rheumatoid arthritis in most respects, but may also have some distinctive patterns, including fever, rash and an enlarged spleen, particularly in the systemic form. Rheumatoid arthritis can begin at any age but it mostly develops between 45 and 90 years of age, and affects more women than men.

There were 1,251 admissions for rheumatoid arthritis in 2003–04, with an average of 4.8 bed days. The overall rate of admission for rheumatoid arthritis has remained fairly constant, from 2.37 per 10,000 persons (2.24–2.52) in 1999–2000 to 2.36 per 10,000 persons (2.23–2.50) in 2003–04. Rural admission rates for rheumatoid arthritis were higher than for metropolitan areas over the five-year period.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–2002*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/arthritis/index.htm

National Health Priority Action Council, www.nhpac.gov.au

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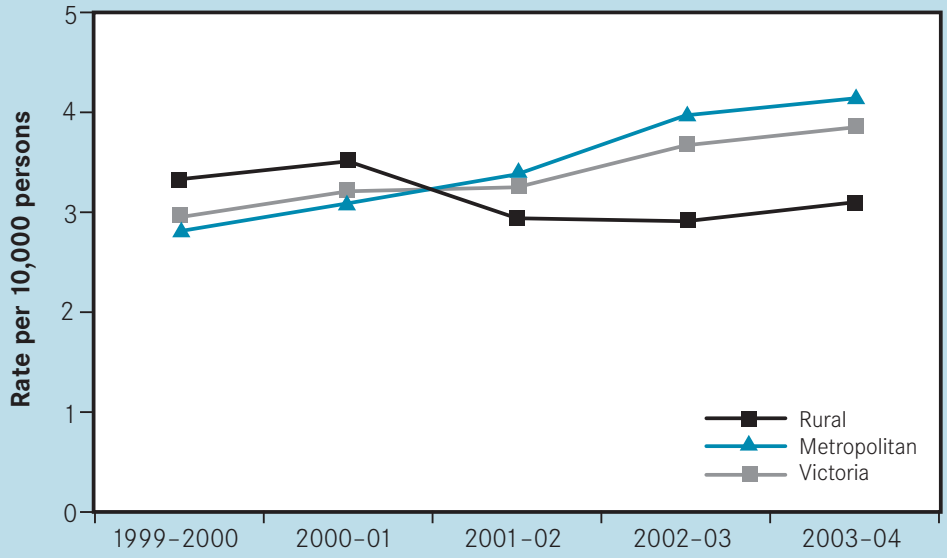
Osteoporosis admissions

Osteoporosis admission rates for rural and metropolitan regions, Victoria, 1999–2000 to 2003–04



		1999–2000	2000–01	2001–02	2002–03	2003–04
Standardised admission rate per 10,000 persons	Rural	3.33	3.51	2.94	2.91	3.10
	Metro	2.81	3.09	3.38	3.97	4.14
	Victoria	2.95	3.21	3.25	3.67	3.85
Rural:Metro rate ratios (Metro=1)		**1.19**	**1.14**	**0.87**	**0.73**	**0.75**

Note: ICD–10–AM codes were used to identify osteoporosis admissions in 1999–2000 to 2003–04. Rural and metropolitan areas are based on the Department of Human Services regions. Admissions were selected by first (principal) diagnosis. Rates are age and sex standardised using the Victorian population at June 1996.

Source: Department of Human Services, Victorian Admitted Episodes Dataset; Australian Bureau of Statistics population data.

Osteoporosis is not a form of arthritis but is another type of musculoskeletal disorder. Osteoporosis is characterised by bones becoming fragile and breaking easily due to a loss of calcium. Fractures commonly occur in the bones of the spine, the hip and the wrist. Bone strength is affected by lifestyle, exercise and hormonal factors. Peak bone development occurs during younger ages such as childhood and adolescence. Building stronger bones during this period is likely to provide protection against fractures in later years of life.

There were 2,094 admissions (1,610 female and 484 male) for osteoporosis in 2003–04, with an average of 6.7 bed days. The overall rate of admission for osteoporosis has increased from 2.95 per 10,000 persons (2.80–3.11) in 1999–2000 to 3.85 per 10,000 persons (3.69–4.01) in 2003–04. A similar pattern was observed for metropolitan admission rates, however the rural admission rate has remained steady, or even decreased, from 3.33 per 10,000 persons (3.05–3.63) in 1999–2000 to 3.10 per 10,000 persons (2.84–3.37) in 2003–04. Rural admission rates for osteoporosis varied, from being 19 per cent higher to 25 per cent lower than metropolitan areas over the five-year period.

For more information

Australian Capital Territory Health (Population Health Division), 2003, *Australian Capital Territory Chief Health Officer's report 2000–2002*, Canberra.

Commonwealth Department of Health and Aged Care, www.health.gov.au/pq/arthritis/index.htm

National Health Priority Action Council, www.nhpac.gov.au

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Mothers' and children's health

In this chapter

Summary

- The annual crude birth rate in the female resident population aged 15–44 years has declined from 64.8 per 1,000 persons in 1986 to 58.6 in 2002.
- The maternal mortality ratio has fallen from 67.2 per 100,000 live births in 1953 to 4.8 in 2003.
- The average age of women giving birth in 2002 was 30.2 years, with the proportion aged 35 years and over having risen to 20.5 per cent (almost doubling) in the last ten years.
- The overall proportion of births to women younger than 20 years has remained steady at just over 3 per cent in recent years. The maternal age distribution varies across regions.
- The proportion of vacuum extractions was 6.4 per cent in 2002. The proportion of forceps births continued to decline, with a corresponding increase in the proportion of vacuum extractions and elective and emergency caesareans.
- The proportion of pre-term births has remained stable, around 7.5 per cent since 1998, while the proportion of births at 42 or more weeks gestation has reduced from 4.5 per cent in 1990 to 1.2 per cent in 2002.
- The proportion of low birth weight (less than 2,500 grams) and very low birth weight (less than 1,500 grams) babies has steadily risen since 1986, increasing from 5.9 per cent and 1.1 per cent to 6.9 per cent and 1.6 per cent respectively in 2002.
- In 2003, there were 2,205 babies born at or after 20 weeks gestation with a birth defect. There were another 339 identified as terminations of pregnancy for a birth defect before 20 weeks gestation. The overall birth defect prevalence rate was 4.0 per cent.
- The live birth prevalence rate for birth defects in 2003 was 3.3 per cent. Of babies born at 20 weeks or later with a birth defect, 111 (5.0 per cent) were stillborn and 94 (4.1 per cent) were neonatal deaths. This gives a perinatal mortality rate of 930 per 10,000 births for infants with birth defects.
- In 2004, 52.0 per cent of infants were fully breastfed at three months. The proportion of infants fully breastfed at three months ranged from 47.9 per cent in the North and West Metropolitan Region to 57.4 per cent in the Grampians Region.
- In 2003, 304 infants died in the first year of life. The infant mortality rate was 4.6 per 1,000 live births.

- In 2003, seven infant deaths (including one infant aged less than one month) were attributed to Sudden Infant Death Syndrome (SIDS). The number of infant deaths from SIDS was 131 in 1985.
- Overall, the leading cause of death for post-neonatal infants and children was birth-related conditions, particularly birth defects.
- In 2003 there were 41 post-neonatal infant and child deaths due to unintentional injuries. The number of deaths resulting from motor vehicle accidents has reduced from 43 in 1990 to 24 in 2003. The number of deaths due to drowning declined from 24 in 1990 to three in 2003.

Births and maternal deaths

Total births in Victoria, 2001–2002

Year	Live births	Total births (live and still)	Females aged 15–44 years	Crude birth rate per 1,000 females aged 15–44 years
2001	61,690	62,105	1,063,056	58.4
2002	62,678	63,069	1,076,131	58.6

Trends in births in Victoria, 1986–2002

	1986	1990	1994	1998	1999	2000	2001	2002
Total births	61,253	66,878	64,932	62,091	62,678	62,552	62,105	63,069
Live births	60,843	66,374	64,448	61,685	62,219	62,148	61,690	62,678
Confinements	60,479	66,004	63,983	61,071	61,577	61,559	61,064	61,959
Births per 1,000 females aged 15–44 years	64.8	64.0	62.3	59.5	59.9	59.4	58.4	58.6

Note: All births to mothers aged less than 15 years are included in the 15–19 year age group. All births to mothers aged 45 years or more have been included in the 40–44 year age group. All denominator data are Australian Bureau of Statistics estimates of the female resident population (EFRP) aged 15–44 years. Births include all births of babies at 20 or more weeks gestation (or weighing at least 400g), but exclude late terminations of pregnancy (greater than or equal to 20 weeks) for reasons other than birth defects. As a result, the data presented here will differ slightly from those presented in reports by the National Perinatal Statistics Unit which include these cases.

Source: Department of Human Services, 2003, *Births in Victoria 2001–2002*, Victorian Perinatal Data Collection Unit, Public Health, 2003. Australian Bureau of Statistics, *Population by age and sex*, Catalogue no 3201.0.

In the mid-1980s, the annual Victorian crude birth rate was approximately 65 per 1,000 female resident population aged 15–44 years. There has been a continuing decline in the annual birth rate since the mid-1980s, and in 2002, the crude birth rate was 58.6 per 1,000 female resident population aged 15–44 years.

Maternal death is defined as the death of a woman while pregnant, or within 42 days of the birth or termination of the pregnancy, irrespective of the cause of death. The maternal mortality ratio has fallen from 67.2 per 100,000 live births in 1953 to 4.8 per 100,000 live births in 2003.

For more information

The Consultative Council on Obstetric and Paediatric Mortality and Morbidity, 2004, *Annual report for the year 2003, incorporating the 42nd survey of perinatal deaths in Victoria*, Melbourne, www.health.vic.gov.au/perinatal/

Contact

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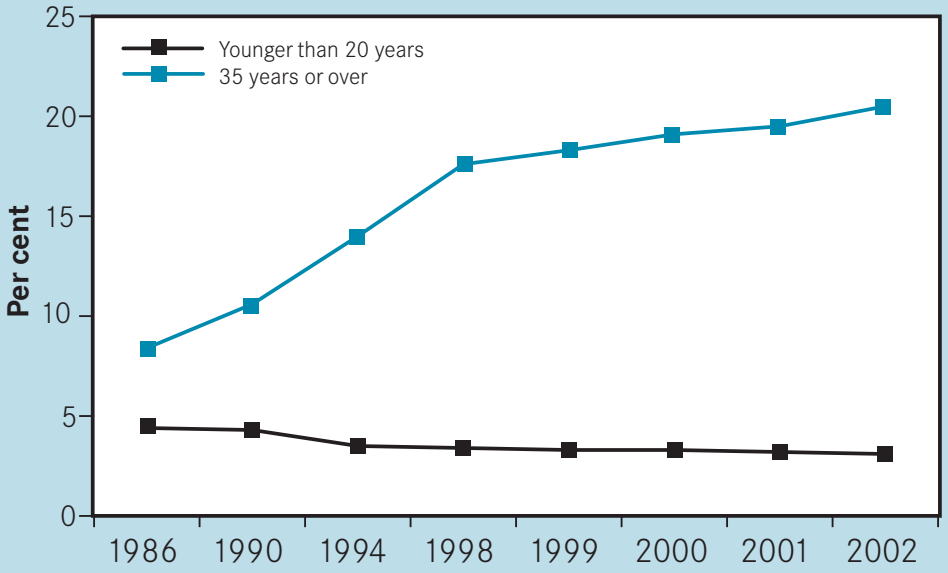
Maternal age

Trends in maternal age groups, younger than 20 years and 35 years or over, all confinements, Victoria, 1986–2002



Maternal age	1986	1990	1994	1998	1999	2000	2001	2002
Younger than 20 years	4.4	4.3	3.5	3.4	3.3	3.3	3.2	3.1
35 years or over	8.4	10.6	14.0	17.6	18.3	19.1	19.5	20.5

The average age of women giving birth was 30.2 years in 2002, with the proportion aged 35 years or over having risen to 20.5 per cent, almost doubling in the last ten years. The average age of women having their first baby has risen from 25.6 years in 1986 to 28.6 years in 2002.

The overall proportion of births to women younger than 20 years has remained steady at between 3.1 to 3.3 per cent in recent years. This proportion varies considerably with Department of Human Services region of residence, however, ranging from approximately 6 per cent in some rural areas to 1.4 per cent in the Eastern Metropolitan Region.

For more information

The Consultative Council on Obstetric and Paediatric Mortality and Morbidity, 2004, *Annual report for the year 2003, incorporating the 42nd survey of perinatal deaths in Victoria*, Melbourne, www.health.vic.gov.au/perinatal/

Contact

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Maternal age by department region

Maternal age, all confinements, by department region of residence, pooled data, Victoria, 2001–2002

	Maternal age group (years)					
	< 20		20–24		25–29	
Region	Number	Per cent	Number	Per cent	Number	Per cent
Barwon–South Western	340	4.2	1,245	15.3	2,486	30.6
Grampians	252	5.2	736	15.2	1,523	31.4
Loddon Mallee	420	5.9	1,170	16.5	2,156	30.4
Hume	299	4.9	1,001	16.3	1,904	31.0
Gippsland	350	6.5	1,074	19.9	1,734	32.1
Western Metropolitan	439	2.5	2,239	13.0	5,134	29.9
Northern Metropolitan	559	2.6	2,441	11.6	5,663	27.0
Eastern Metropolitan	322	1.4	1,620	7.3	5,629	25.4
Southern Metropolitan	731	2.5	3,120	10.9	7,551	26.3
Other	143	6.0	403	17.2	689	29.3
Total	**3,855**	**3.1**	**15,049**	**12.2**	**34,469**	**28.0**

	Maternal age group (years)					
	30–34		35–39		40+	
Region	Number	Per cent	Number	Per cent	Number	Per cent
Barwon–South Western	2,697	33.2	1,151	14.2	207	2.5
Grampians	1,564	32.3	646	13.3	126	2.6
Loddon Mallee	2,200	31.0	960	13.5	190	2.7
Hume	1,988	32.4	789	12.9	154	2.5
Gippsland	1,532	28.4	588	10.9	123	2.3
Western Metropolitan	6,080	35.4	2,769	16.1	514	3.0
Northern Metropolitan	7,892	37.7	3,673	17.5	730	3.3
Eastern Metropolitan	9,343	42.1	4,500	20.3	773	3.5
Southern Metropolitan	10,937	38.0	5,367	18.7	1,040	3.6
Other	745	31.7	307	13.1	62	2.6
Total	**44,978**	**36.6**	**20,750**	**17.0**	**3,919**	**3.1**

Note: The 'other' category refers to women who live in a postcode outside Victoria, but who give birth at a Victorian hospital. The total excludes three cases where maternal age or regions of residence was unknown.

Source: Department of Human Services, 2003, *Births in Victoria 2001–2002*, Victorian Perinatal Data Collection Unit.

Pooled data for 2001–02 shows that the maternal age distribution varies between the department's regions, with the metropolitan regions continuing to have a smaller proportion of younger mothers than the rural regions. The proportion of women who gave birth at 35 years and over is 23.8 per cent in the Eastern Metropolitan Region, compared with 16.7 per cent in the Barwon–South Western Region. Of all rural regions, the Barwon–South Western Region has the highest proportion of mothers giving birth at 35 years and over. Conversely, the number of mothers aged under 20 years in the Eastern Metropolitan Region was only 1.4 per cent compared with 4.2 per cent in the Barwon–South Western Region (the smallest proportion of mothers giving birth aged under 20 years in the rural regions).

For more information

Department of Human Services (Victorian Perinatal Data Collection Unit, Public Health Group), 2003, *Births in Victoria 2001–2002*, Melbourne, www.health.vic.gov.au/perinatal/pdcu.htm

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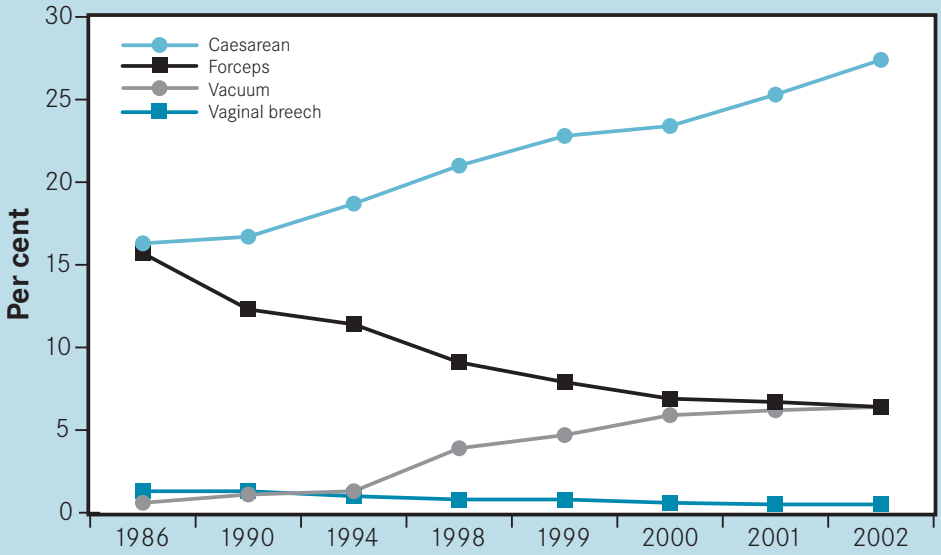
Type of birth

Type of Birth	2001 Number	2001 Per cent	2002 Number	2002 Per cent
Spontaneous cephalic	37,439	61.3	36,790	59.4
Forceps	4,080	6.7	3,960	6.4
Vacuum	3,796	6.2	3,937	6.4
Vaginal breech	326	0.5	295	0.5
Total caesarean	15,423	25.3	16,972	27.4
– elective	*7,916*	*13.0*	*8,710*	*14.1* }
– emergency	*7,507*	*12.3*	*8,262*	*13.3* }
Unknown	0	0.0	5	0.0
Total	**61,064**	**100.0**	**61,959**	**100.0**

Type of birth (other than spontaneous cephalic), all confinements, Victoria, 1986–2002



Per cent of all confinements, Victoria, 1986-2002

Type of birth	1986	1990	1994	1998	1999	2000	2001	2002
Caesarean	16.3	16.7	18.7	21.0	22.8	23.4	25.3	27.4
Forceps	15.7	12.3	11.4	9.1	7.9	6.9	6.7	6.4
Vacuum	0.6	1.1	1.3	3.9	4.7	5.9	6.2	6.4
Vaginal breech	1.3	1.3	1.0	0.8	0.8	0.6	0.5	0.5

Note: Includes all births of babies at 20 or more weeks gestation (or weighing at least 400 grams), but excludes late terminations of pregnancy (greater than or equal to 20 weeks) for reasons other than birth defects. The data presented here will, therefore, differ slightly from those presented.

The proportion of vacuum extractions was 6.2 per cent in 2001 and 6.4 per cent in 2002. The proportion of forceps births continued to decline, with a corresponding increase in the proportion of vacuum extractions and both elective and emergency caesareans.

Caesarian births accounted for 25.3 per cent and 27.4 per cent respectively of all births in 2001 and 2002. Approximately half were elective caesarean sections (with or without labour) and half were emergency caesarean sections (with or without labour).

The three main reported indications for all caesareans in 2002 were previous caesarean (32 per cent), cephalo-pelvic disproportion/failure to progress (18 per cent) and malpresentation (16 per cent).

The three main reported indications for elective caesareans in 2002 were previous caesareans (55 per cent), malpresentation (19 per cent) and 'other reported indications' (13 per cent).

The three main reported indications for emergency caesareans in 2002 were cephalo-pelvic disproportion/failure to progress (32 per cent), foetal distress (31 per cent) and malpresentation (13 per cent).

For more information

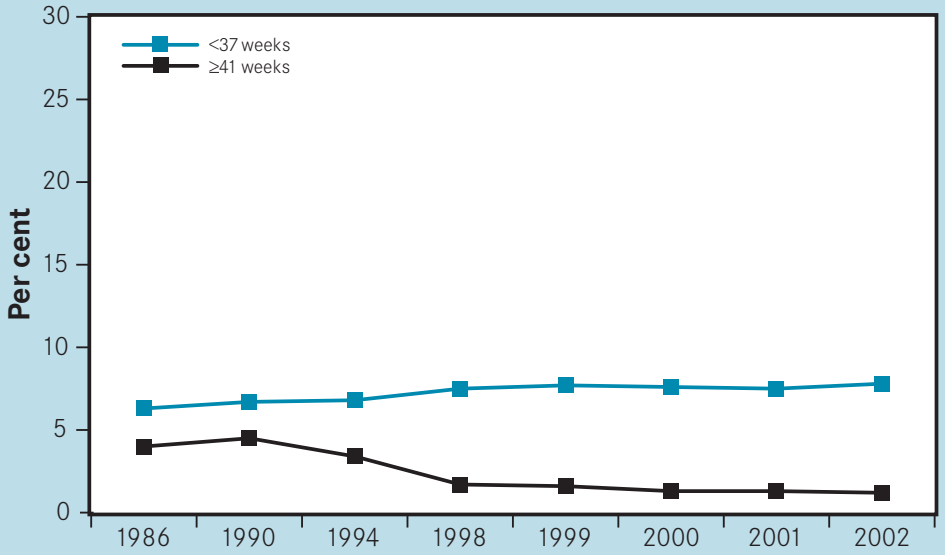
Department of Human Services (Victorian Perinatal Data Collection Unit, Public Health), 2003, *Births in Victoria 2001–2002*, Melbourne, www.health.vic.gov.au/perinatal/pdcu.htm

Contact

Mary–Ann Davey, Epidemiologist, Consultative Council on Obstetric and Paediatric Mortality and Morbidity and Perinatal Data Collection Unit, Department of Human Services, telephone **61 3 9616 2728**, **Mary-Ann.Davey@dhs.vic.gov.au**

Pre-term and post-term births

Pre-term births (< 37 weeks) and post-term births (≥ 41weeks), Victoria, 1986–2002



Gestation	1986	1990	1994	1998	1999	2000	2001	2002
Less than 37 weeks	6.3	6.7	6.8	7.5	7.7	7.6	7.5	7.8
Equal to or greater than 41 weeks	4.0	4.5	3.4	1.7	1.6	1.3	1.3	1.2

Note: Births include all births of babies at 20 or more weeks gestation (or weighing at least 400g), but exclude late terminations of pregnancy (greater than or equal to 20 weeks) for reasons other than birth defects. As a result, the data presented here will differ slightly from those presented in reports by the National Perinatal Statistics Unit which include these cases.

Source: Department of Human Services, 2003, *Births in Victoria 2001–2002*, Victorian Perinatal Data Collection Unit.

The proportion of pre-term births has remained stable, between 7.5 per cent and 7.8 per cent since 1998, while the proportion of births at 42 weeks (or more) gestation has reduced from 4.5 per cent in 1990 to 1.2 per cent in 2002.

For more information

Department of Human Services (Victorian Perinatal Data Collection Unit, Public Health), 2003, *Births in Victoria 2001–2002*, Melbourne, www.health.vic.gov.au/perinatal/pdcu.htm

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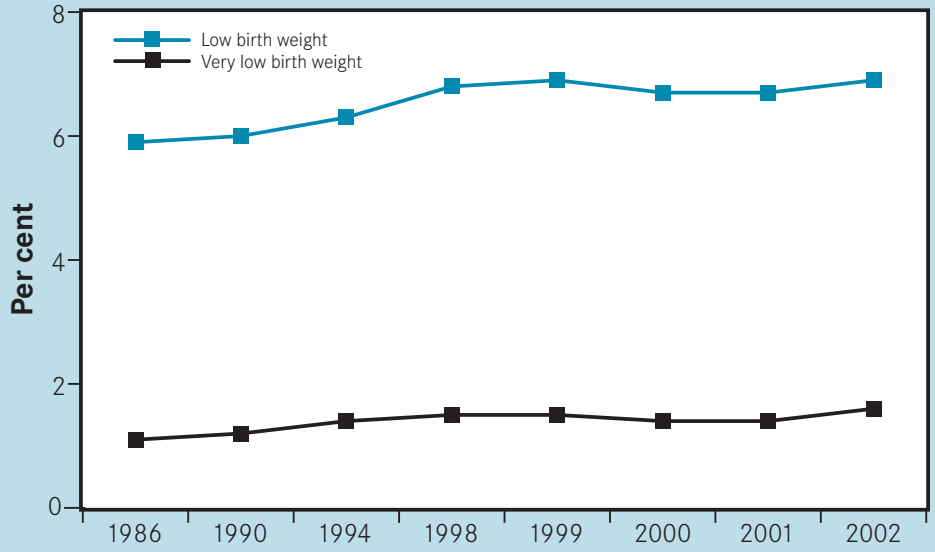
Low birth weight and very low birth weight births

Low birth weight (< 2,500 grams) and very low birth weight (<1,500 grams) for all births, Victoria, 1986-2002



Per cent of all births

Birth weight	1986	1990	1994	1998	1999	2000	2001	2002
Low birth weight	5.9	6.0	6.3	6.8	6.9	6.7	6.7	6.9
Very low birth weight	1.1	1.2	1.4	1.5	1.5	1.4	1.4	1.6

Note: Births include all births of babies at 20 or more weeks gestation (or weighing at least 400g), but exclude late terminations of pregnancy (greater than or equal to 20 weeks) for reasons other than birth defects. As a result, the data presented here will differ slightly from those presented in reports by the National Perinatal Statistics Unit which include these cases.

Source: Department of Human Services, 2003, *Births in Victoria 2001–2002*, Victorian Perinatal Data Collection Unit.

The proportion of low birth weight (less than 2,500 grams) and very low birth weight babies (less than 1,500 grams) has steadily risen since 1986, increasing from 5.9 per cent and 1.1 per cent respectively to 6.9 per cent and 1.6 percent respectively in 2002.

For more information

Department of Human Services (Victorian Perinatal Data Collection Unit, Public Health), 2003, *Births in Victoria 2001–2002*, Melbourne, www.health.vic.gov.au/perinatal/pdcu.htm

Contact

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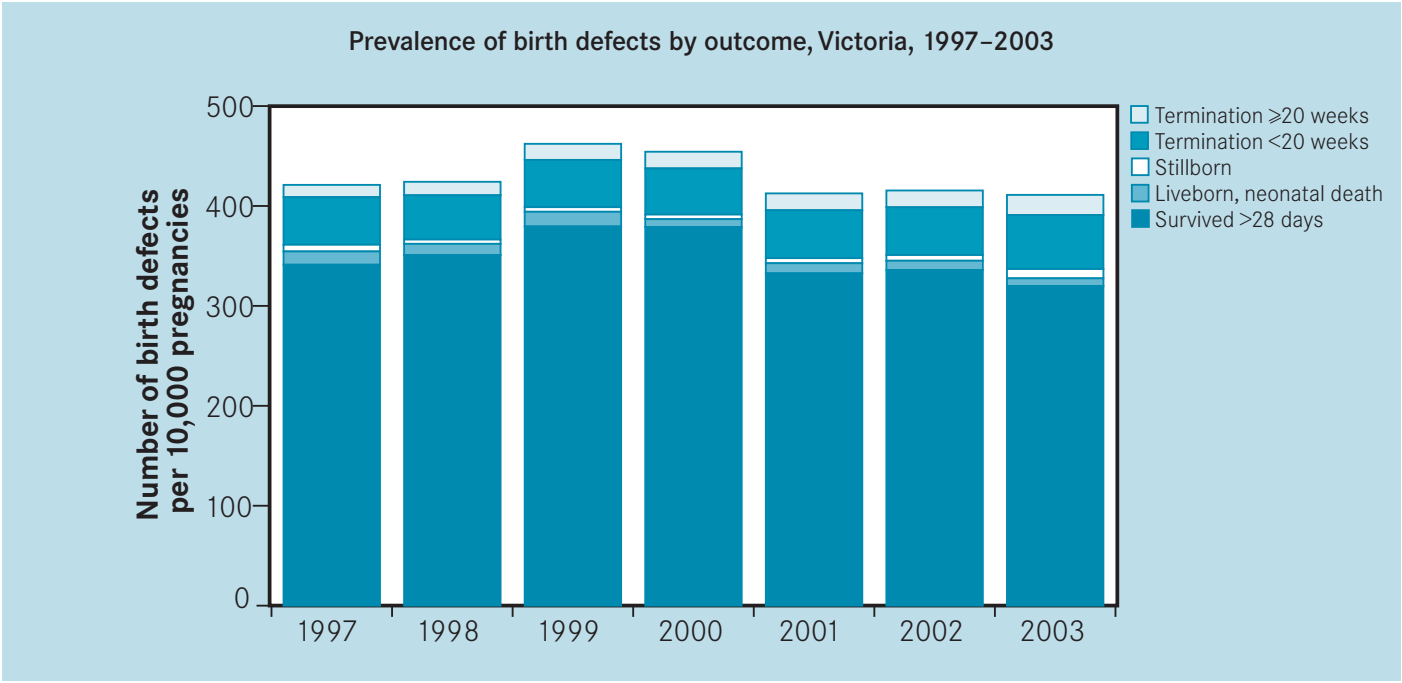
Prevalence and outcome of birth defects



There were 2,205 babies born with a birth defect at or after 20 weeks gestation in Victoria in 2003, and another 339 identified as terminations of pregnancy for a birth defect before 20 weeks gestation. The overall birth defect prevalence rate is 400 per 10,000 births, or 4.0 per cent. There were an additional 165 notifications of conditions (for example, undescended testes ≥ 37 weeks and vesicoureteric reflux) that are collected by the Victorian Birth Defects Register but which are not routinely reported. If these conditions are included in the total number of babies born with a birth defect, the overall birth defect prevalence rate for 2003 is 420 per 10,000 births, or 4.2 per cent.

The live birth prevalence rate for birth defects in 2003 was 330 per 10,000 live births, or 3.3 per cent. Of babies born at 20 weeks or later with a birth defect, 111 (5.0 per cent) were stillborn and 94 (4.1 per cent) were neonatal deaths, giving a perinatal mortality rate of 930 per 10,000 births for infants with birth defects. If terminations of pregnancy at 20 weeks or later are excluded from the stillbirths and neonatal deaths, however, the perinatal mortality rate declines to 345 per 10,000 pregnancies for infants with birth defects.

Approximately 12.5 per cent of pregnancies with a birth defect were terminated before 20 weeks gestation.

For more information

Riley, M. and Halliday, J., 2004, *Birth defects in Victoria, 2001–2002*, Melbourne.

Department of Human Services (Victorian Perinatal Data Collection Unit) Birth Defects Register, www.health.vic.gov.au/perinatal/bdr.htm

Contact

Associate Professor Jane Halliday, Epidemiologist, Birth Defects Register, Perinatal Data Collection Unit, Department of Human Services, telephone **61 3 9616 2729**, **Jane.Halliday@dhs.vic.gov.au**, or **perinatal.data@dhs.vic.gov.au**

Breastfeeding

Infants fully breastfed at three months, by department region

Region	Per cent
Barwon–South Western	53.3
Grampians	57.4
Loddon Mallee	51.7
Hume	53.1
Gippsland	50.5
North and West Metropolitan	47.9
Eastern Metropolitan	49.2
Southern Metropolitan	52.3
Metropolitan Melbourne	52.3
Rural/regional Victoria	51.2
Victoria	**52.0**

Source: Department of Human Services, Family and Community Support Branch, Community Care Division.

The composition of breast milk is of unique benefit to the baby. It is not only a high-quality food but it also contains many components which protect and nurture the baby's immature systems. Exclusive breastfeeding provides infants with protection against infection and some chronic diseases and leads to improved cognitive development (NHMRC, 2003). In addition, research has shown that breastfed babies are less likely to suffer from eczema, food allergy and respiratory illness. Breastfed babies are also less prone to infections (such as middle ear infection) and are less likely than formula-fed babies to be hospitalised (NHMRC, 2003). Three months of full or even partial breastfeeding will bestow these benefits on the infant.

In Australia, it is recommended that as many infants as possible be exclusively breastfed until around six months of age. Breastfeeding complemented with appropriate foods from six months is recommended, and continued breastfeeding, while receiving appropriate complementary foods, is recommended up to at least 12 months of age.

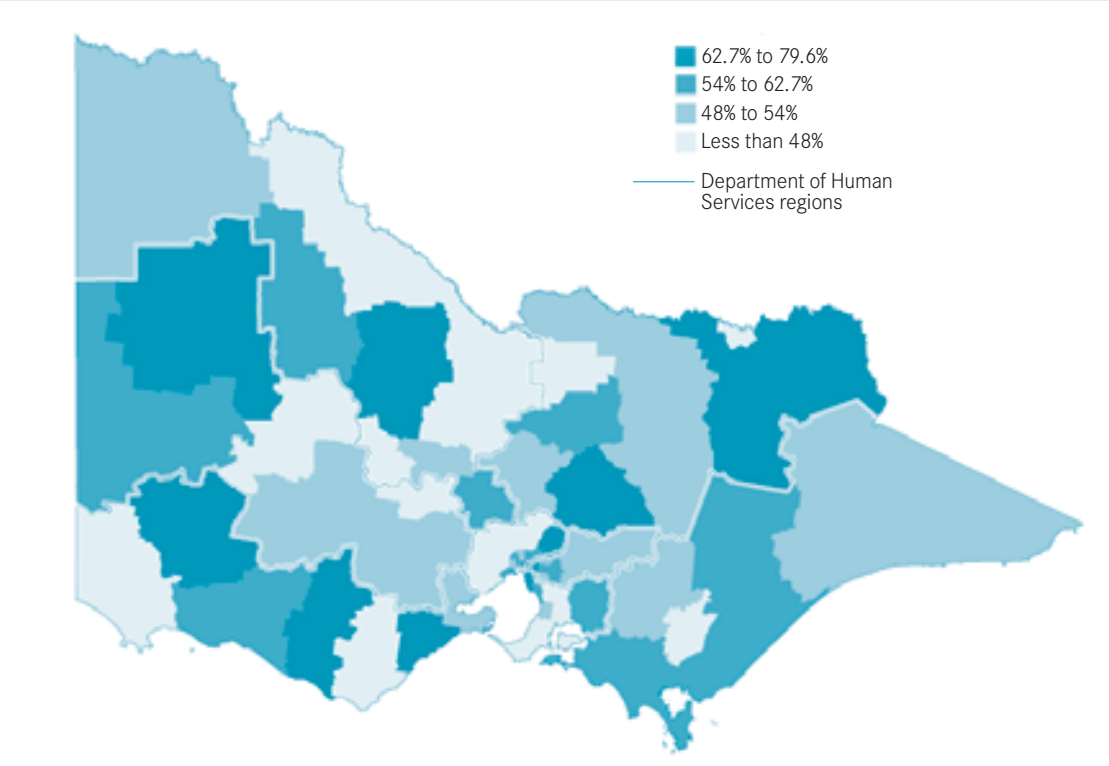
In Victoria in 2004, 52.0 per cent of infants were fully breastfed at three months. The proportion of infants fully breastfed at three months ranged from 47.9 per cent in the North and West Metropolitan Region to 57.4 per cent in the Grampians Region. There were wide variations within regions in these proportions as reflected in the rural and metropolitan maps showing infants who were fully breastfed at three months of age by local government area. Within Victoria, the proportion of infants fully breastfed at three months ranged from 79.6 per cent in Yarriambiack to 33.4 per cent in Glenelg.

For more information

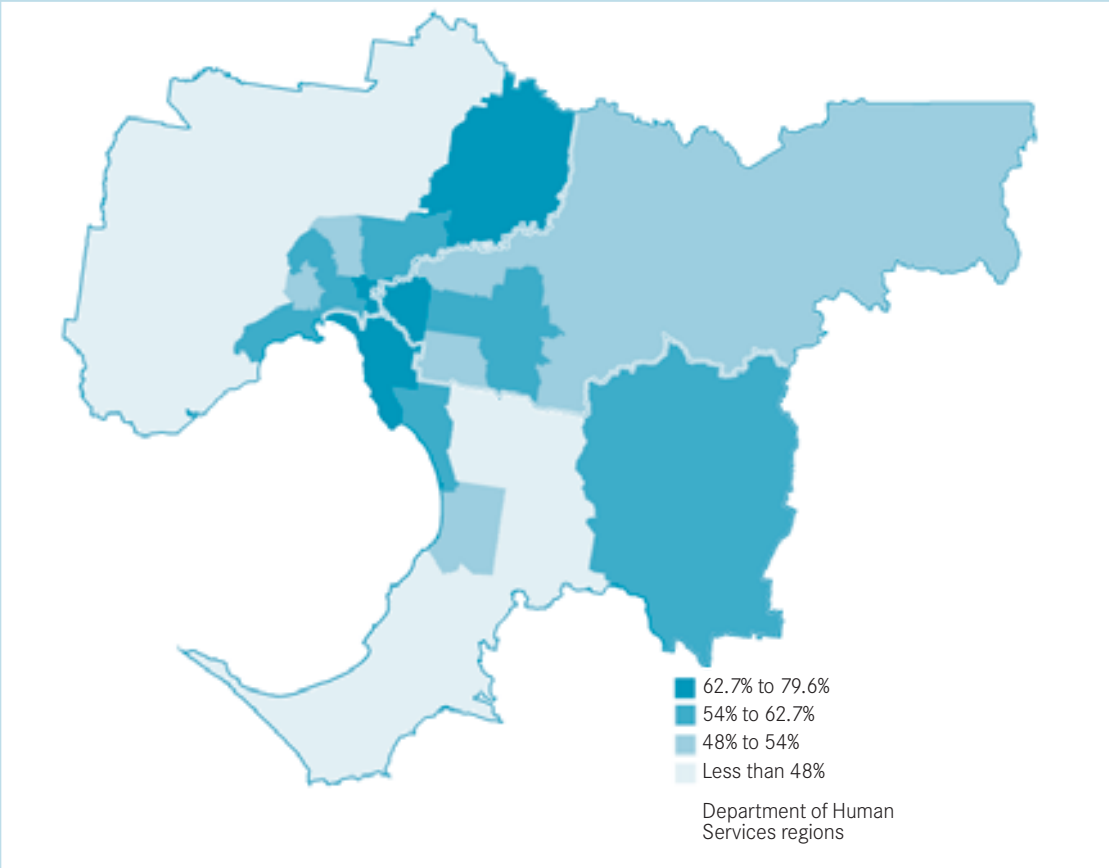
National Health and Medical Research Council (NHMRC), 2003, *Dietary guidelines for children and adolescents in Australia incorporating the infant feeding guidelines for health workers*, Canberra.

Breastfeeding by local government area

Infants fully breastfed at three months of age, Victoria, 2003

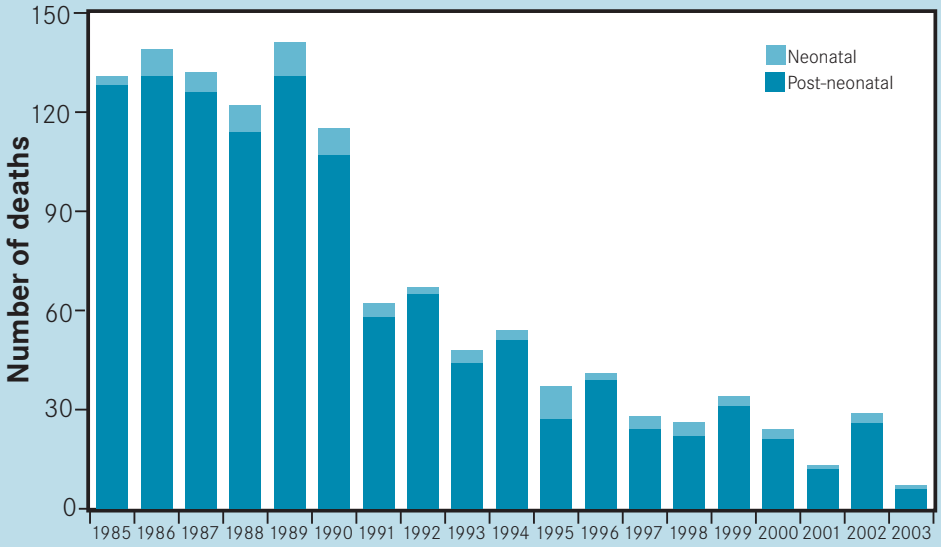


Infants fully breastfed at three months of age, metropolitan Melbourne, 2003



Sudden Infant Death Syndrome

Sudden Infant Death Syndrome (SIDS) deaths, Victoria, 1985–2003



SIDS deaths	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Post-neonatal	128	131	126	114	131	107	58	65	44	51	27	39	24	22	31	21	12	26	6
Neonatal	3	8	6	8	10	8	4	2	4	3	10	2	4	4	3	3	1	3	1
Total	131	139	132	122	141	115	62	67	48	54	37	41	28	26	34	24	13	29	7

Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant less than one year of age that remains unexplained after a thorough case investigation (including death scene investigation), performance of a complete autopsy, and a review of the clinical history.

Seven infant deaths (including one infant aged less than one month) were attributed to SIDS in 2003 in Victoria.

The number of deaths from SIDS for infants has fallen from 131 in 1985 to seven in 2003. There has been a sharp decline in the number of SIDS since 1990, which was associated with the extensive public education campaign carried out by the Sudden Infant Death Research Foundation (now SIDS and Kids). This campaign highlighted the association between face-down sleeping and SIDS.

For more information

The Consultative Council on Obstetric and Paediatric Mortality and Morbidity, 2004, *Annual report for the year 2003, incorporating the 42nd survey of perinatal deaths in Victoria*, Melbourne, www.health.vic.gov.au/perinatal/

Contact

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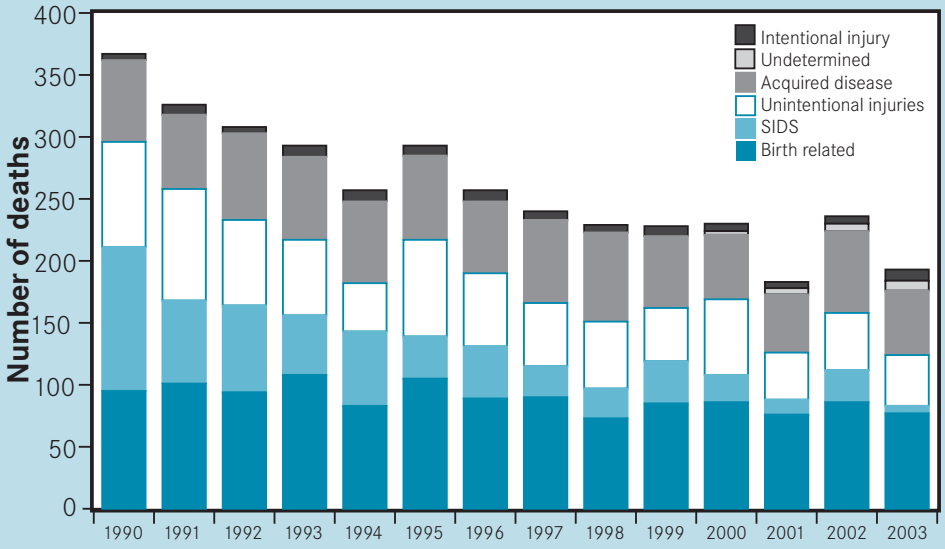
Post-neonatal infant and child deaths

Major causes of post-neonatal infant and child deaths, Victoria, 1990–2003



Causes of death	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Birth related	95	101	94	108	83	105	89	90	73	85	86	76	86	77
SIDS	116	67	70	48	60	34	42	25	24	34	22	12	26	6
Unintentional injuries	85	90	69	61	39	78	59	51	54	43	61	38	46	41
Acquired disease	66	60	70	67	66	68	58	67	72	58	52	47	66	52
Undetermined	na	na	na	na	na	na	na	na	na	na	3	5	6	8
Intentional injury	5	8	5	9	9	8	9	7	6	8	6	5	6	9
Total cases	**367**	**326**	**308**	**293**	**257**	**293**	**257**	**240**	**229**	**228**	**230**	**183**	**236**	**193**

Note: na = not available. Undetermined is a new subcategory. In prior reports where a cause of death could not be identified or had been classified as unascertained it was included in the category 'acquired disease' under the subcategory 'other acquired'.

Overall, the leading cause of death for post-neonatal infants and children was birth-related conditions, particularly birth defects. There was a substantial reduction in the number of deaths due to SIDS over this time period.

For more information

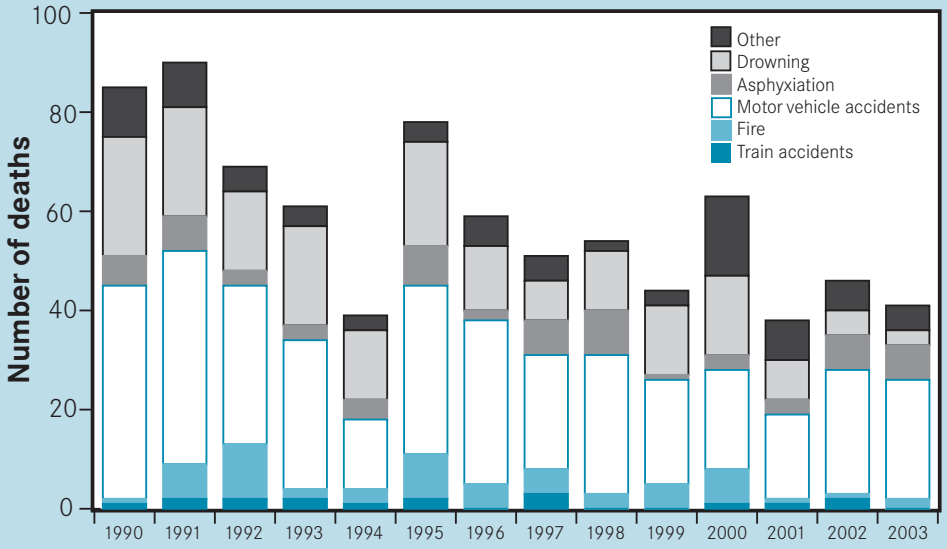
The Consultative Council on Obstetric and Paediatric Mortality and Morbidity, 2004, *Annual report for the year 2003, incorporating the 42nd survey of perinatal deaths in Victoria*, Melbourne, www.health.vic.gov.au/perinatal/

Contact

Rosemary Warren, Project Officer, Consultative Council on Obstetric and Paediatric Mortality and Morbidity, Department of Human Services, telephone **61 3 9616 2694**, **Rosemary.Warren@dhs.vic.gov.au**

Unintentional injury deaths

Unintentional injury deaths, post-neonatal infants and children, Victoria, 1990-2003



Causes of death	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Train accidents	1	2	2	2	1	2	0	3	0	0	1	1	2	0
Fire	1	7	11	2	3	9	5	5	3	5	7	1	1	2
Motor vehicle accidents	43	43	32	30	14	34	33	23	28	21	20	17	25	24
Asphyxiation	6	7	3	3	4	8	2	7	9	1	3	3	7	7
Drowning	24	22	16	20	14	21	13	8	12	14	16	8	5	3
Other	10	9	5	4	3	4	6	5	2	3	16	8	6	5
Total cases	**85**	**90**	**69**	**61**	**39**	**78**	**59**	**51**	**54**	**44**	**63**	**38**	**46**	**41**

There were 41 post-neonatal infant and child deaths due to unintentional injuries in 2003 in Victoria. The number of deaths resulting from motor vehicle accidents has reduced from 43 in 1990 to 24 in 2003. The number of deaths due to drowning declined from 24 in 1990 to 3 in 2003.

For more information

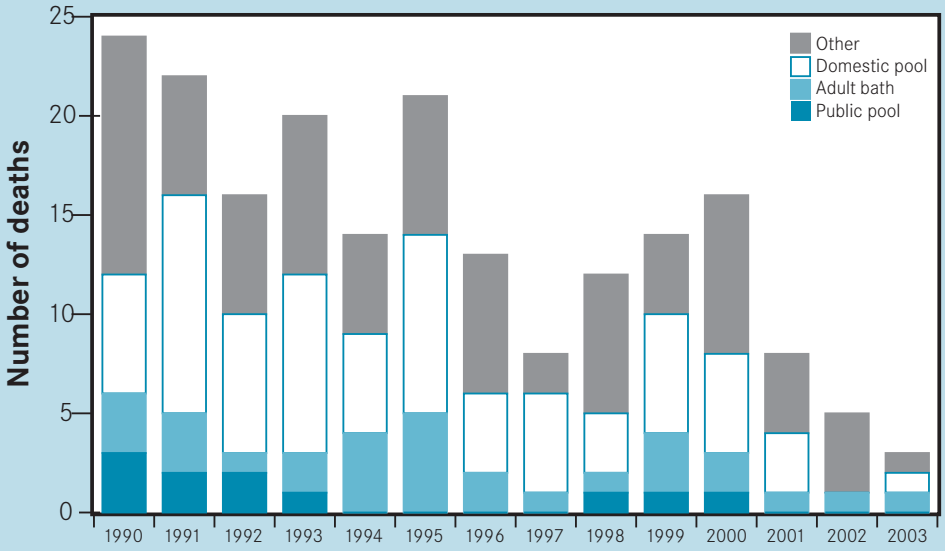
The Consultative Council on Obstetric and Paediatric Mortality and Morbidity, 2004, *Annual report for the year 2003, incorporating the 42nd survey of perinatal deaths in Victoria*, Melbourne, www.health.vic.gov.au/perinatal/

Contact

Rosemary Warren, Project Officer, Consultative Council on Obstetric and Paediatric Mortality and Morbidity, Department of Human Services, telephone **61 3 9616 2694**, **Rosemary.Warren@dhs.vic.gov.au**

Drowning deaths

Drowning fatalities, post-neonatal infants and children, Victoria, 1990-2003



Causes of death	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Public pool	3	2	2	1	0	0	0	0	1	1	1	0	0	0
Adult bath	3	3	1	2	4	5	2	1	1	3	2	1	1	1
Domestic pool*	6	11	7	9	5	9	4	5	3	6	5	3	0	1
Other†	12	6	6	8	5	7	7	2	7	4	8	4	4	1
Total cases	**24**	**22**	**16**	**20**	**14**	**21**	**13**	**8**	**12**	**14**	**16**	**8**	**5**	**3**

Note: * Domestic pool includes spa, wading pool.
† Other includes sea, river, dam, irrigation channel, reservoir, storm drain, creek.

Three children died as result of drowning in 2003 in Victoria, and for the second consecutive year, there were no reports of children drowning in domestic swimming pools or dams. This result compares with 24 child deaths as result of drowning in 1990.

For more information

The Consultative Council on Obstetric and Paediatric Mortality and Morbidity, 2004, *Annual report for the year 2003, incorporating the 42nd survey of perinatal deaths in Victoria*, Melbourne, www.health.vic.gov.au/perinatal/

Contact

Rosemary Warren, Project Officer, Consultative Council on Obstetric and Paediatric Mortality and Morbidity, Department of Human Services, telephone **61 3 9616 2694**, **Rosemary.Warren@dhs.vic.gov.au**

Communicable diseases

In this chapter

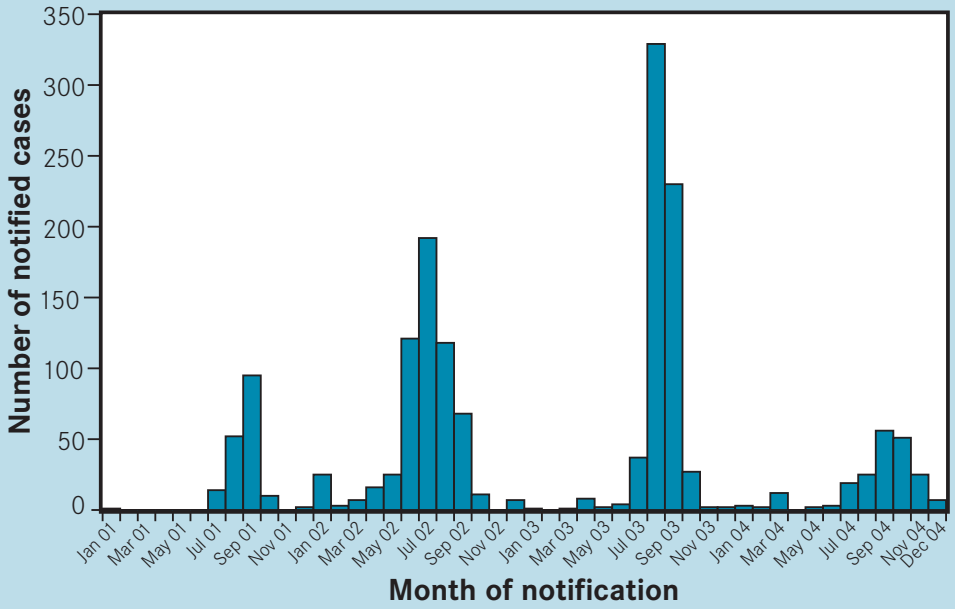
Summary

- According to the Notifiable Infectious Diseases Surveillance (NIDS) database maintained by the Department of Human Services, notified cases of influenza by age group showed higher notification in children (2001–04).
- Notifications of invasive pneumococcal disease were marginally higher in 2003 than in 2002, with children aged less than two years and the elderly being most vulnerable.
- Measles continued to occur in young adults, particularly those born between 1968 and 1981, and unvaccinated children.
- Notifications for pertussis have declined over the last five years.
- There has been a decline in the number of cases of invasive meningococcal group C disease between 2000 and 2004, attributable to the introduction of the national meningococcal C immunisation program, which commenced in January 2003.
- In 2004, there were 61,814 children aged 24–27 months recorded on the Australian Childhood Immunisation Register (ACIR), of whom 92.6 per cent had been fully immunised; 94.5 per cent for rural regions and 91.9 per cent for metropolitan regions.
- In 2004, the coverage of influenza vaccination among individuals aged 65 years or over was 81.6 per cent in Victoria, compared with a national average of 79.1 per cent. Valid usage of influenza vaccine was 72.6 per cent for Australia and 76.2 per cent for Victoria.
- There are approximately 1,000 cases of salmonellosis notified in Victoria each year. In 2004, there were seven point-source outbreaks of salmonellosis investigated.
- While the number of hepatitis A cases in 2004 was low, a large number of cases occurred between mid-1999 and mid-2000 due to an outbreak among injecting drug users. In 2004, the rate was highest among children aged 0–9 years.
- In 2004, 27 cases of Q fever were notified, compared with 19 in 2003 and 82 in 2002. Two outbreaks in 2001 and 2002 were both associated with abattoirs in regional Victoria.

- Numbers of notified cases of psittacosis have been increasing over the past few years, with 156 notifications in 2004, 89 in 2003 and 34 in 2002. The most recent outbreaks occurred at a poultry processing plant in rural Victoria (26 cases) and at a game processing plant (four cases).
- In 2004, there were 7,639 notifications of chlamydia, a 17.9 per cent increase in notifications for 2003. Of these, 41.3 per cent were for males and 57.9 per cent for females.
- In 2004, there were 422 notifications of syphilis. Of these, 85 were classified as infectious, a 55 per cent increase on the notifications received in 2003.

Influenza notifications

Notified cases of confirmed influenza, Victoria, 2001–04



Influenza is an acute viral infection caused by the influenza virus (comprising several strains), of which influenza A and influenza B cause the majority of human infections. Influenza is highly seasonal, with most cases occurring in winter/spring. Laboratory-confirmed influenza became notifiable in Victoria in 2001. Notified cases showed that 2003 was the most recent year of high influenza activity. The graph of notified cases by age group, showing higher numbers of notifications in children, may reflect higher testing rates among children.

Victoria commenced a free influenza vaccination program for those aged 65 years and over in 1997, which has reduced morbidity and mortality from influenza in this age group.

For more information

Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

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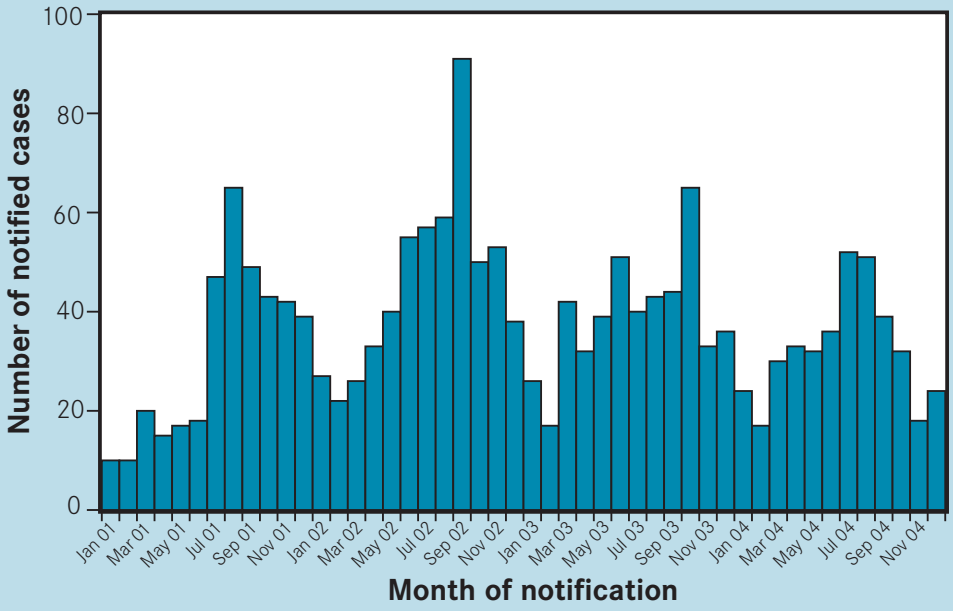
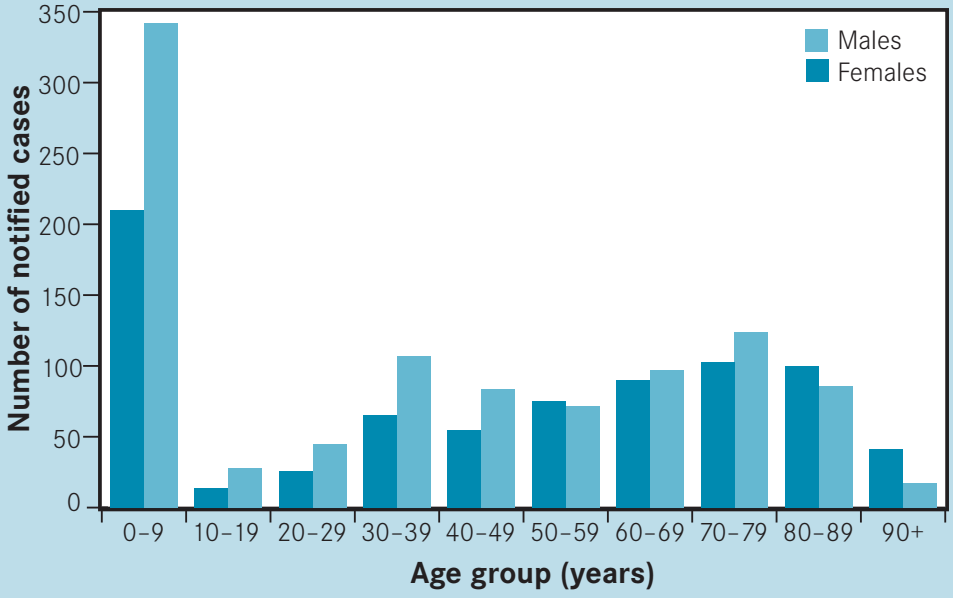
Invasive pneumococcal disease notifications

Notified cases of confirmed invasive pneumoccal disease, Victoria, 2001–04



Notified cases of confirmed invasive pneumoccal disease, by age and sex, Victoria, 2001–04



Invasive pneumococcal disease (IPD), caused by *Streptococcus pneumoniae*, has several clinical manifestations including septicaemia, pneumonia and meningitis.

IPD became notifiable in Victoria in 2001. Incidence rates of IPD are highest at the extremes of age. Victoria began a free pneumococcal polysaccharide vaccination program for those aged 65 years and over in 1998, to complement the free influenza program commenced in 1997. Conjugate pneumococcal vaccine became available in 2001, and a targeted program for Indigenous children, and children with medical risk factors up to the age of five years, was implemented.

Although incidence in those aged 65 years and over has declined, the targeted program for children failed to make a significant impact on incidence in young children. This program was implemented as a universal program from 1 January 2005.

For more information

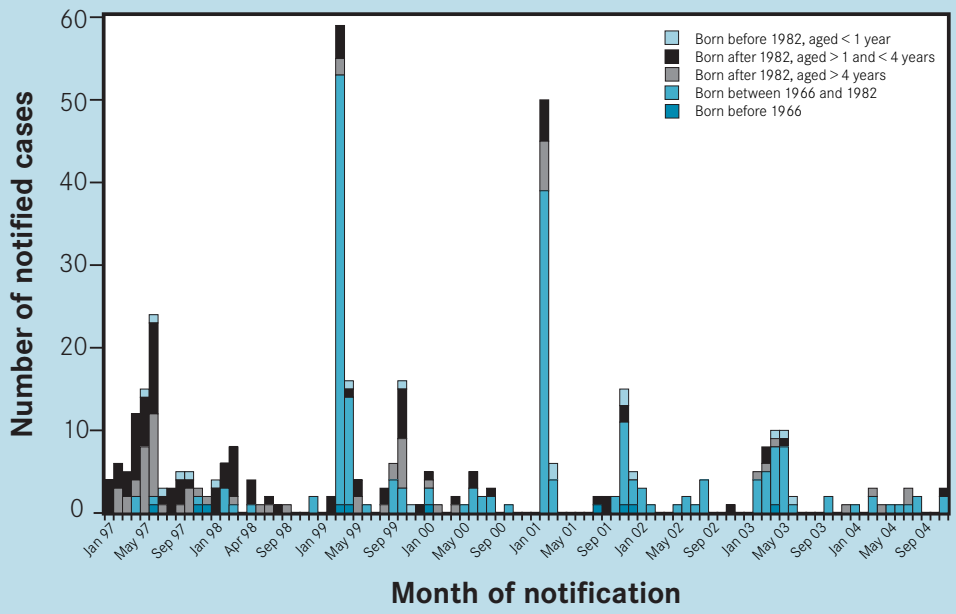
Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Measles notifications

Notified cases of confirmed and probable measles by age group, Victoria, 1997–2004



Measles is a highly infectious viral illness caused by a morbillivirus. An effective live vaccine against measles has been in use in Australia since 1970, changing to a two-dose regime in 1994. The recommended age of the second dose was lowered from 12 years to four years in 1998, with a mass catch-up campaign conducted for children between these ages.

Because of changes in the immune profile to measles, the cohort of those born between 1966 and 1982 are now the most susceptible to measles. Outbreaks of measles in Victoria in 1999 and 2001 were a result of importation of the index case, with resultant cases overwhelmingly infecting young adults.

For more information

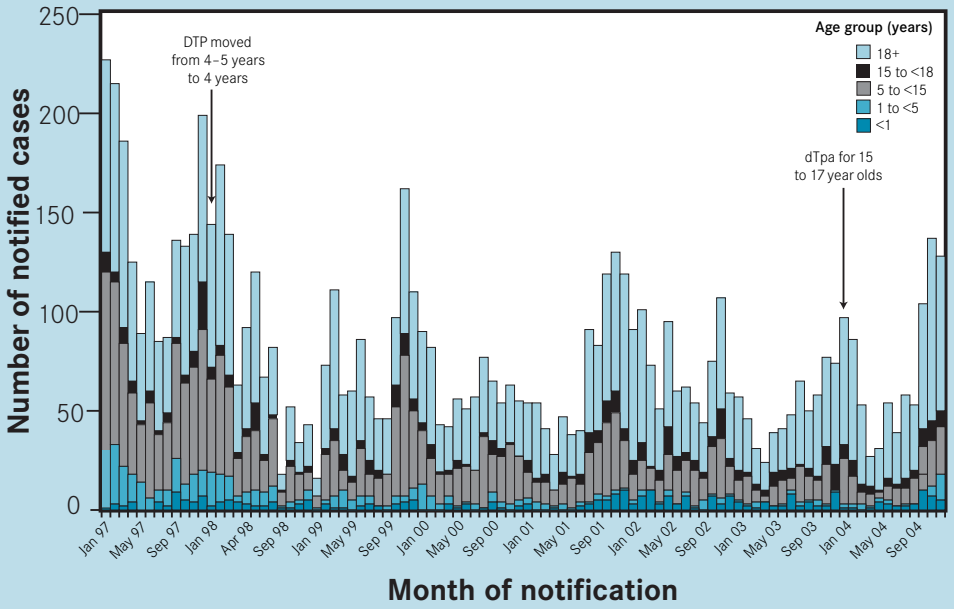
Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Pertussis notifications

Notified cases of confirmed and probable pertussis by age group, Victoria, 1997–2004



Note: DTP = diptheria-tetanus-pertussis vaccine (whole cell); dTpa = diptheria-tetanus-pertussis vaccine (acellular).

Pertussis is an acute bacterial respiratory disease caused by infection with *Bordetella pertussis*. The disease is characterised by a cough that may persist for up to three months, and may be associated with vomiting. A seasonal increase of pertussis notifications is evident in warmer months in Victoria.

There have been two changes to the vaccine for pertussis on the Australian Standard Vaccination Schedule since 1997. The fourth dose was moved from four–five years to four years (reinforcing the importance of vaccination before school) in January 1998. This resulted in a marked decrease in the number of cases among those of school age, and a rise every year in the proportion of cases aged 18 years or older, from 45 per cent in 1997 to 66 per cent in 2004. A pertussis vaccine booster for 15–17 year olds was introduced in January 2004 to reduce morbidity in this age group and to reduce transmission to infants, although the expected benefits of this change are yet to be clearly seen.

For more information

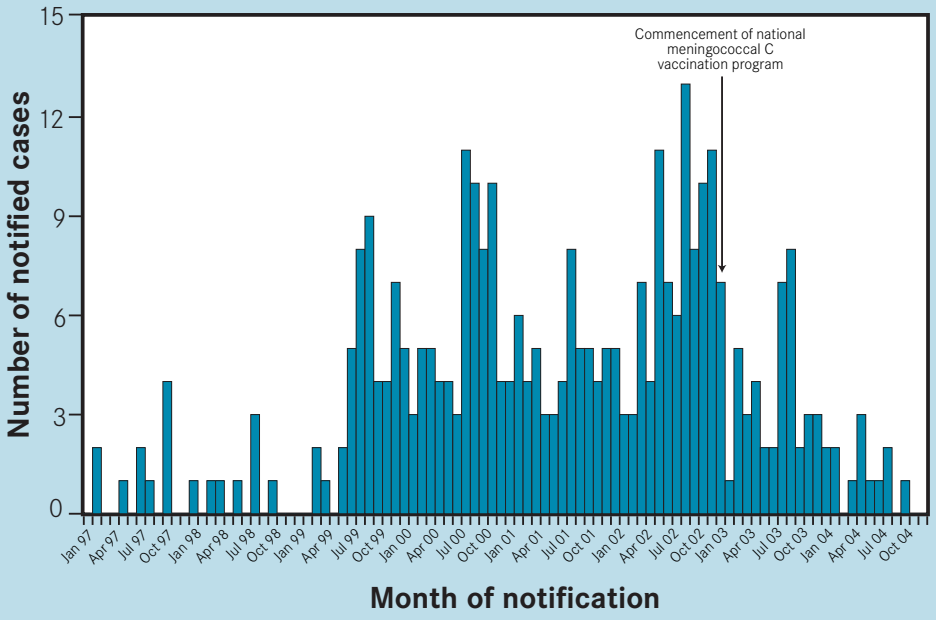
Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

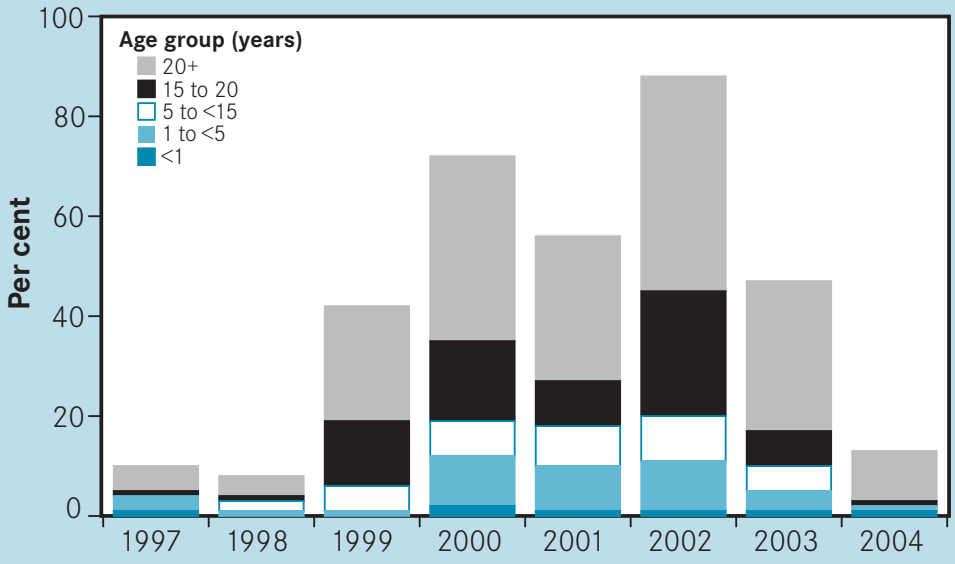
Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Meningococcal disease notifications

Notified cases of confirmed group C invasive meningococcal disease, Victoria, 1997–2004



Notified cases of confirmed group C invasive meningococcal disease, by age group, Victoria, 1997–2004



Meningococcal disease is an invasive bacterial infection with several distinct serogroups, of which serogroup C has been associated with the highest morbidity and mortality in Victoria. The usual clinical manifestations are septicaemia or meningitis.

The incidence of serogroup C disease began to rise in Victoria in 1999–2000, and an upward trend continued until the introduction of the National Meningococcal Vaccination Campaign on 1 January 2003. All persons aged 1–19 years were eligible for free vaccine under this program, with those aged 1–5 years and 15–19 years targeted first.

Incidence rates of disease prior to the campaign were highest in those aged 15–20 years. Since the implementation of the program, incidence has fallen dramatically, with a 64 per cent decrease in confirmed cases of meningococcal C disease in the target population in 2003, and a 95 per cent decrease by 2004. The fall in incidence outside the target population may reflect the effect of herd immunity, with decreased carriage of the bacterium.

For more information

Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Childhood immunisation

Australian immunisation providers have contributed data to the Australian Childhood Immunisation Register (ACIR) since 1996. The ACIR is a national database containing data on immunisation given to children under seven years of age who are living in Australia, administered by the Health Insurance Commission (HIC). Details of vaccinations given to children are forwarded to the HIC by recognised providers, for inclusion on the register. For the purposes of the registry, a cohort of children is defined by date of birth in three-month groups, the first cohort being born between 1 January and 31 March 1996.

Australian standard vaccination schedules are defined for children born between specified calendar dates. For children born on or after 1 January 2005, for example, there are 11 diseases covered by the routine childhood vaccination schedule–hepatitis B, diphtheria, *Haemophilus influenzae type b* (Hib) disease, measles, mumps, pertussis, polio, rubella, tetanus, pneumococcal disease and meningococcal C. Additions to the standard vaccination schedule result in different cohorts of children being administered different standard vaccination schedules. Meningococcal C vaccine was added to the national immunisation program for children at 12 months of age born after 1 January 2002, and a new childhood pneumococcal vaccination program commenced on 1 January 2005. This program provides free pneumococcal conjugate vaccine (Prevenar) at two, four and six months of age for all children born on or after 1 January 2005, and includes a catch-up component during 2005 for all children born from 1 January 2003 to 31 December 2004.

The vaccination status of each cohort is assessed at the three key milestones of 12 months, 24 months and six years of age. Coverage is measured three months after the last cut off date for the cohort for completion of each milestone, to allow for delayed notification to the ACIR by immunisation providers. The 12-month milestone measures vaccinations due at six months of age, and includes only vaccinations administered before the child turns 12 months old. Similarly, the 24-month milestone includes vaccinations due at 12 months of age and administered before the second birthday. The six-year milestone includes vaccinations due at four years of age and administered before the sixth birthday. The calculation is based on the vaccination schedule for the cohort. The cohort includes only children enrolled with Medicare. It is assumed that notification of receipt of a later vaccine dose implies receipt of earlier doses, even if no earlier vaccination is recorded (third dose assumption).

There are a number of limitations regarding data available from the ACIR that must be considered when it is used to estimate vaccination coverage, including under-reporting, the fact that records are only held for children up to seven years of age and that coverage is calculated only for children registered on Medicare (Hull et al, 1999; Yohannes et al, 2004). It has been estimated, however, that by the age of 12 months, over 98 per cent of Australian children have been registered with Medicare (Hull et al, 2002; Lister et al, 1999; O'Brien et al, 1998).

References

Hull, BP., Lawrence, GL., MacIntyre, CR. and McIntyre, PB., 2003, 'Immunisation coverage in Australia corrected for under-reporting to the Australian childhood immunisation register', in *Australian and New Zealand Journal of Public Health*, Volume 27, pp. 533–8.

Hull, BP., McIntyre, PB., Heath, TC. and Sayer, GP., 1999, 'Measuring immunisation coverage in Australia: a review of the Australian Childhood Immunisation Register', in *Australian Family Physician*, Volume 28, pp. 55–60.

Lister, S., McIntyre, PB., Burgess, MA. and O'Brien, ED., 1999, 'Immunisation coverage in Australian children: a systematic review 1990–1998', in *Communicable Diseases Intelligence*, Volume 23, pp. 145–70.

O'Brien, ED., Sam, GA. and Mead, C., 1998, 'Methodology for measuring Australia's childhood immunisation coverage', in *Communicable Diseases Intelligence*, Volume 22, pp.36–7.

Yohannes, K., Roche, P., Blumer, C. et al., 2004, 'Australia's notifiable diseases status, 2002: annual report of the national notifiable diseases surveillance system', in *Communicable Diseases Intelligence*, Volume 28, pp. 6–68.

Immunisation of children aged 24 to 27 months

Vaccination coverage by department region, children aged 24 to 27 months, Victoria, 2004

Region	Number of children	% DTP	% OPV	% Hib	% Hep B	% MMR	% Fully immunised
Barwon–South Western	4,318	97.3	96.9	96.0	97.3	96.0	95.2
Grampians	2,580	96.6	96.4	95.0	96.8	95.1	94.0
Loddon Mallee	3,755	95.9	95.8	94.7	96.5	95.1	93.7
Hume	3,319	96.5	96.4	95.2	97.1	95.6	94.5
Gippsland	2,769	96.6	96.5	95.7	97.3	95.7	94.9
Western Metropolitan	8,741	96.2	95.8	94.2	96.5	94.5	92.8
Northern Metropolitan	10,193	95.6	95.1	93.6	95.8	93.8	92.0
Eastern Metropolitan	11,384	95.5	95.1	93.7	95.5	93.7	92.1
Southern Metropolitan	14,755	95.0	94.5	92.9	95.7	93.2	91.1
RURAL	16,741	96.6	96.4	95.3	97.0	95.6	94.5
METRO	45,073	95.5	95.0	93.5	95.8	93.7	91.9
VICTORIA	61,814	95.8	95.4	94.0	96.1	94.2	92.6

Note: Coverage = (number of children vaccinated/number of children on register) x 100. Only vaccines administered before 24 months of age are included in the coverage calculation. These figures may not reflect actual coverage due to under-reporting.
DTP = Diptheria, tetanus and pertussis vaccination. OPV = Oral poliomyelitis vaccination. Hib = *Haemophilus influenzae type b* vaccination. Hep B = Hepatitis B vaccination. MMR = Measles, mumps and rubella vaccination.
Source: Australian Childhood Immunisation Register, *Coverage report*, 2004.

A child is defined as 'fully vaccinated' at 24 to 27 months if he or she has received the third dose of diphtheria, tetanus and pertussis (DTP) vaccine, the third dose of oral poliomyelitis (OPV) vaccine, the third dose of *Haemophilus influenzae type b* (Hib vaccine) the second or third dose of hepatitis B (Hep B) vaccine, and one dose of measles, mumps and rubella vaccine (MMR1).

There were 61,814 children aged 24 to 27 months in Victoria in 2004 recorded on the ACIR, of whom 92.6 per cent had been fully immunised. The proportion of children aged 24–27 months who had had all their age-appropriate vaccinations was 94.5 per cent for rural regions and 91.9 per cent for metropolitan regions.

Across the regions, the proportion of children aged 24–27 months who were fully immunised ranged from 91.1 per cent in the Southern Metropolitan Region to 95.2 per cent in the Barwon–South Western Region.

For more information

Department of Human Services,
www.health.vic.gov.au/immunisation

Contact

Immunisation Coordinator, Public Health, Department of Human Services, telephone **61 3 9637 5132**, **immunisation@dhs.vic.gov.au**

Immunisation of children aged 72 to 75 months

Vaccination coverage by department region, children aged 72 to 75 months, Victoria, 2004

Region	Number of children	% DTP	% OPV	% MMR	% Fully immunised
Barwon-South Western	4,643	89.6	89.5	89.5	88.6
Grampians	2,929	89.7	89.8	89.6	88.9
Loddon Mallee	4,192	87.9	87.7	87.9	86.8
Hume	3,517	88.3	88.5	88.4	87.5
Gippsland	3,138	88.4	88.7	88.6	87.7
Western Metropolitan	8,379	87.9	87.4	87.6	86.1
Northern Metropolitan	10,044	87.4	86.8	87.0	85.4
Eastern Metropolitan	11,941	87.5	87.1	87.2	85.8
Southern Metropolitan	14,783	84.8	84.0	84.5	82.9
RURAL	18,419	88.8	88.8	88.8	87.9
METRO	45,147	86.7	86.1	86.3	84.8
VICTORIA	63,566	87.3	86.9	87.0	85.7

Note: Coverage = (number of children vaccinated/ number of children on register) X 100. Only vaccines administered before 72 months of age are included in the coverage calculation. These figures may not reflect actual coverage due to under-reporting.
DTP = Diptheria, tetanus and pertussis vaccination. OPV = Oral poliomyelitis vaccination. MMR = Measles, mumps and rubella vaccination.
Source: Australian Childhood Immunisation Register, *Coverage report*, 2004.

A child is defined as 'fully vaccinated' at age 72 to 75 months if he or she has received the fourth dose of diphtheria, tetanus and pertussis (DPT) vaccine, the fourth dose of oral poliomyelitis vaccine (OPV), and the second dose of measles, mumps and rubella vaccine (MMR).

There were 63,566 children aged 72 to 75 months in Victoria in 2004 recorded on the ACIR, of whom 85.7 per cent had been fully immunised. The proportion of children aged 72–75 months who had had all their age-appropriate vaccinations was 87.9 per cent for rural regions and 84.8 per cent for metropolitan regions. Across the regions, the proportion of children aged 72–75 months who were fully immunised ranged from 88.9 per cent in the Grampians Region to 82.9 per cent in the Southern Metropolitan Region.

For more information

Department of Human Services,
www.health.vic.gov.au/immunisation

Contact

Immunisation Coordinator, Public Health, Department of Human Services, telephone **61 3 9637 5132**,
immunisation@dhs.vic.gov.au

Influenza vaccination

Influenza vaccination coverage and valid usage, persons aged 65 years or over, Victoria and Australia, 2004

Measure	Victoria	Australia
Number		
Target population	663,600	2,604,800
Vaccinated	541,200	2,061,500
With program vaccine	505,800	1,890,800
Per cent		
Coverage	81.6	79.1
Valid usage	76.2	72.6
As a proportion of coverage	93.4	91.7

Source: Australian Institute of Health and Welfare, 2005, *2004 Adult vaccination survey: summary results,* AIHW Catalogue no PHE 56, Canberra.

Influenza is an epidemic disease that may give rise to complications such as pneumonia and pleurisy. Individuals aged 65 years or over are at high risk from influenza and its complications, with the great majority of deaths from these conditions occurring in the 65 and over age group. In Australia in 2002, there were 56 deaths where influenza was the underlying cause; 45 were people aged 65 years or older (AIHW National Mortality Database).

Influenza vaccination is a population-level health intervention that aims to reduce deaths and hospitalisations due to the disease. The Australian Standard Vaccination Schedule (NHMRC 2002) recommends yearly influenza vaccination for older Australians. The Australian Government established the National Influenza Vaccine Program for Older Australians in 1999, providing free influenza vaccine to all Australians aged 65 and older. (Individuals may, however, need to pay for the consultation with their doctor or health centre). Each state government was funded to purchase vaccine for administration to all Australian residents aged 65 years or over in 2004.

National monitoring of influenza vaccination of people aged 65 years and older has begun only recently. For the purposes of evaluating the program, 'coverage' refers to the proportion of the target population vaccinated and 'valid usage' is the proportion of the target population vaccinated with funded vaccine.

The results of the *2004 adult vaccination survey* indicate that coverage in Victoria was 81.6 per cent, compared with a national average of 79.1 per cent. Valid usage of influenza vaccine was 72.6 per cent for Australia and 76.2 per cent for Victoria. In Victoria in 2004, 93.4 per cent of older people who were vaccinated participated in the program.

Reference

National Health and Medical Research Council, 2003, *The Australian immunisation handbook*, Eighth edition, Canberra.

For more information

Australian Institute of Health and Welfare (AIHW), 2005, *2004 adult vaccination survey: summary results*, AIHW Catalogue no PHE 56, Canberra.

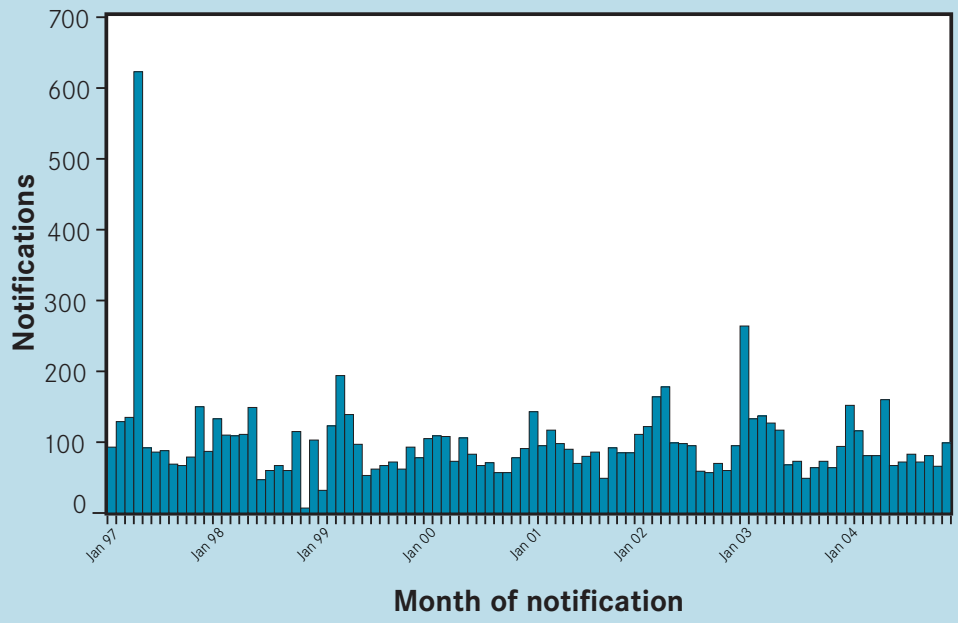
Australian Institute of Health and Welfare, Department of Health and Ageing, www.aihw.gov.au/publications/index.cfm/title/10109

Contact

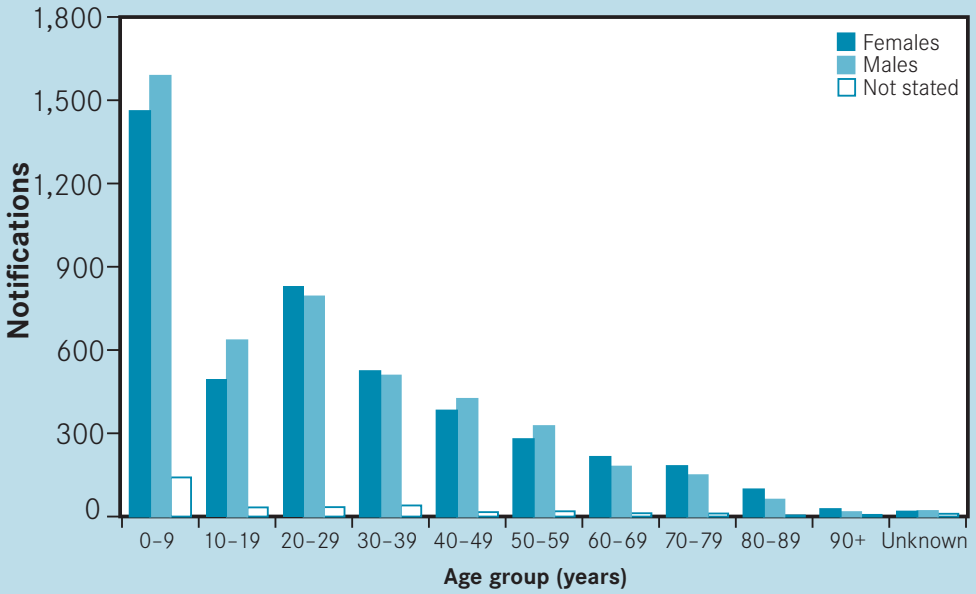
Immunisation Coordinator, Public Health, Department of Human Services, telephone **61 3 9637 5132**, **immunisation@dhs.vic.gov.au**

Salmonellosis notifications

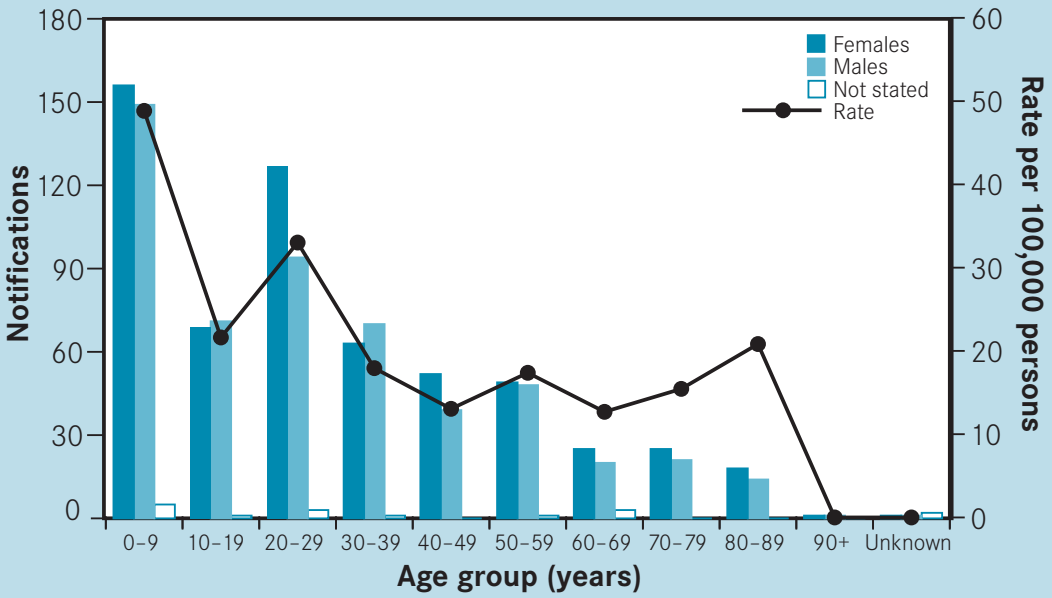
Salmonellosis notifications, by year and month notified, Victoria, 1997–2004



Salmonellosis notifications, by age group and sex, Victoria, 1997–2004



Salmonellosis notifications, by age group and sex, Victoria, 2004



Salmonellosis commonly presents as an acute gastroenteritis with fever, headache, diarrhoea, abdominal pain, nausea and vomiting. Dehydration may occur, especially among infants and the elderly. Infection may also present as septicaemia and occasionally may be localised in other body tissues (for example, endocarditis, pneumonia, septic arthritis, cholecystitis and abscesses). Symptoms usually last from three to five days.

There are approximately 1,000 cases of salmonellosis notified in Victoria each year. The majority of cases are sporadic, but outbreaks are not uncommon. Salmonellosis notifications by year and month show a steady background incidence rate, with several outbreaks occurring in Victoria during this time. Seven point-source outbreaks of Salmonellosis were investigated in 2004. Salmonellosis is relatively seasonal, with most cases occurring in the late summer and early autumn months. As with most gastrointestinal diseases, rates of disease are highest in the 0–4 year age group.

For more information

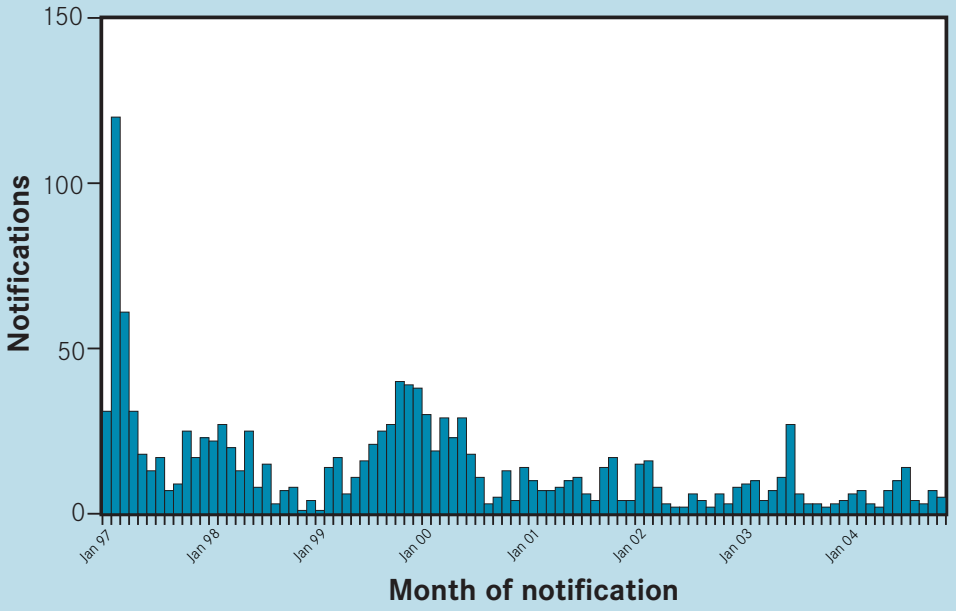
Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

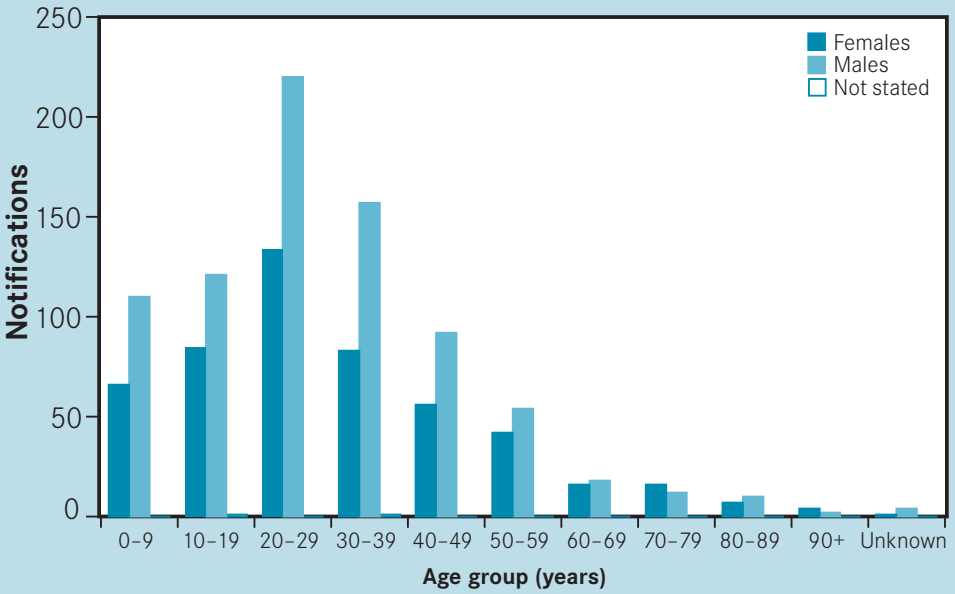
Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Hepatitis A notifications

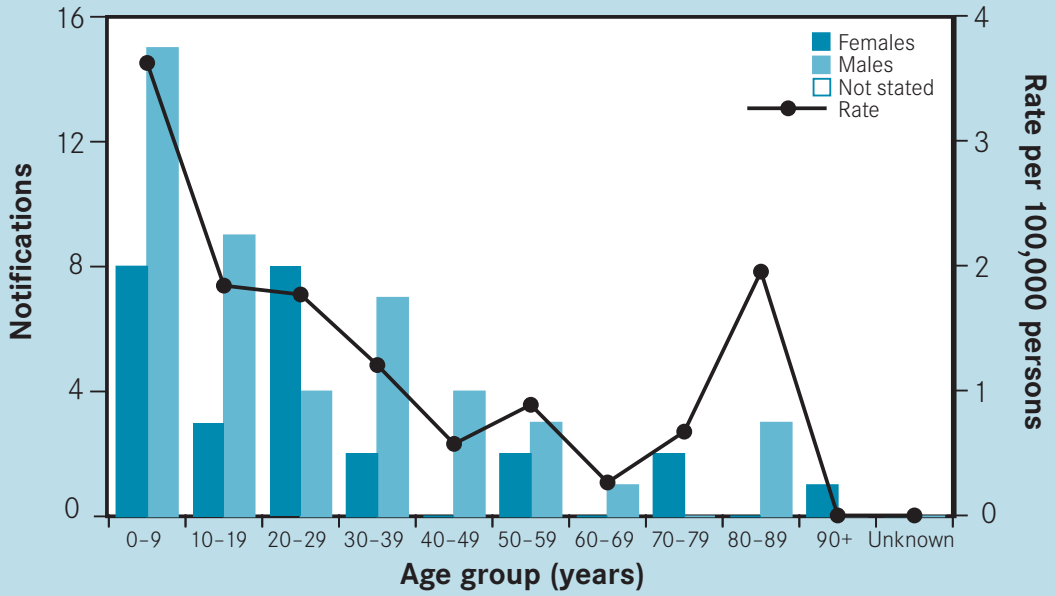
Hepatitis A notifications, by year and month notified, Victoria, 1997–2004



Hepatitis A notifications, by age group and sex, Victoria, 1997–2004



Hepatitis A notifications, by age group and sex, Victoria, 2004



Illness due to hepatitis A typically presents as acute fever, malaise, anorexia, nausea and abdominal discomfort, followed a few days later by dark urine and jaundice. Symptoms usually last several weeks. There are about 70–200 cases per year in Victoria, and notifications have been declining since the late 1990s. Infection is most common in travellers to countries where the disease is endemic, injecting drug users, children in childcare, and men who have sex with men. Secondary cases among household contacts of cases are also not uncommon. In developed countries, common source outbreaks due to contaminated food are rare. The decline in cases may be due in part to the uptake of Hepatitis A vaccine, which is recommended for travellers to endemic areas and those in high risk groups such as child care workers, men who have sex with men and injecting drug users.

While the number of cases in 2004 was low, a large number of cases between mid-1999 and mid-2000 occurred because of an outbreak among injecting drug users. The dramatic peak in Victorian cases between February and March 1997 was associated with the New South Wales Wallis Lakes oysters' outbreak and an area of increased incidence in the north-west of the state. The rate was highest among children aged 0–9 years in 2004.

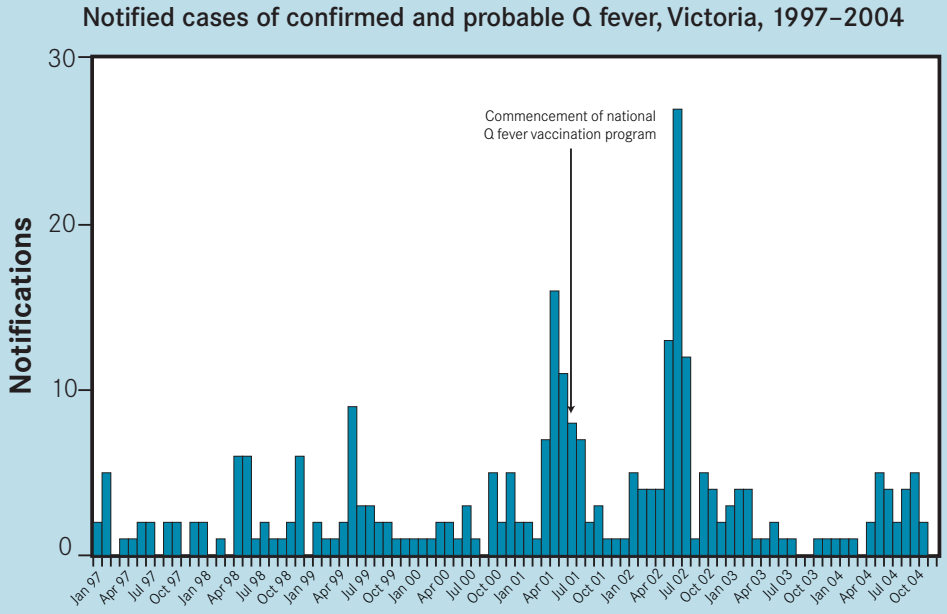
For more information

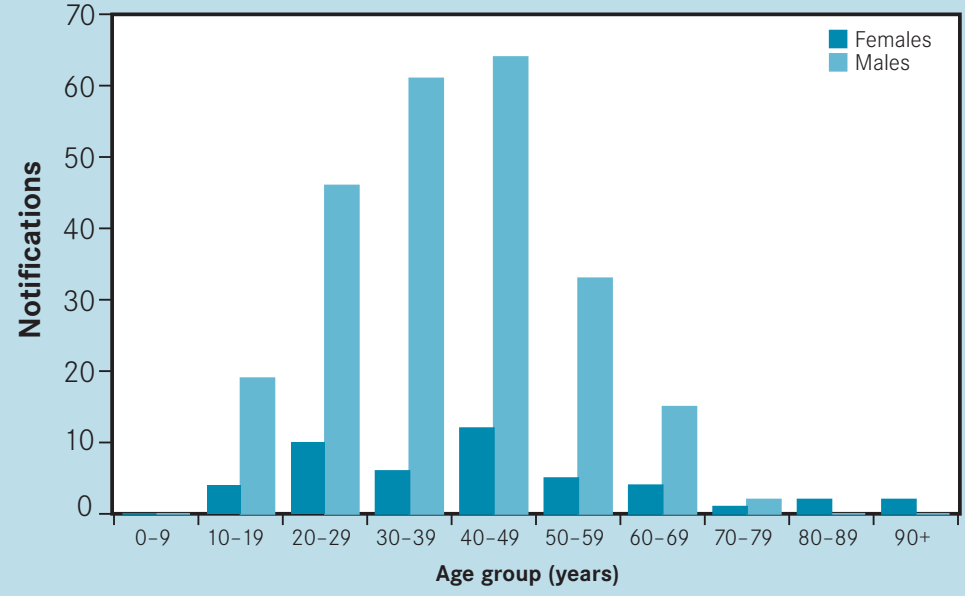
Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

Communicable Diseases Section, Public Health Group, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Q fever notifications





Q fever, caused by *Coxiella burnettii*, is an acute febrile disease acquired through contact with cattle, sheep and goats. For many years, Victoria has conducted a Q fever vaccination program in conjunction with abattoir owners. Staff from the Department of Human Services (Public Health) supplied the service delivery component and expertise to the program, and employers covered the cost of the vaccine. The national Q fever vaccination program was implemented on 1 July 2001, when vaccine was supplied free to a wider group of 'at risk' workers and many more immunisation providers were trained in the administration of the program.

Twenty-seven cases were notified in 2004, compared with 19 in 2003 and 82 in 2002. Two outbreaks in 2001 and 2002 were both associated with abattoirs in regional Victoria.

For more information

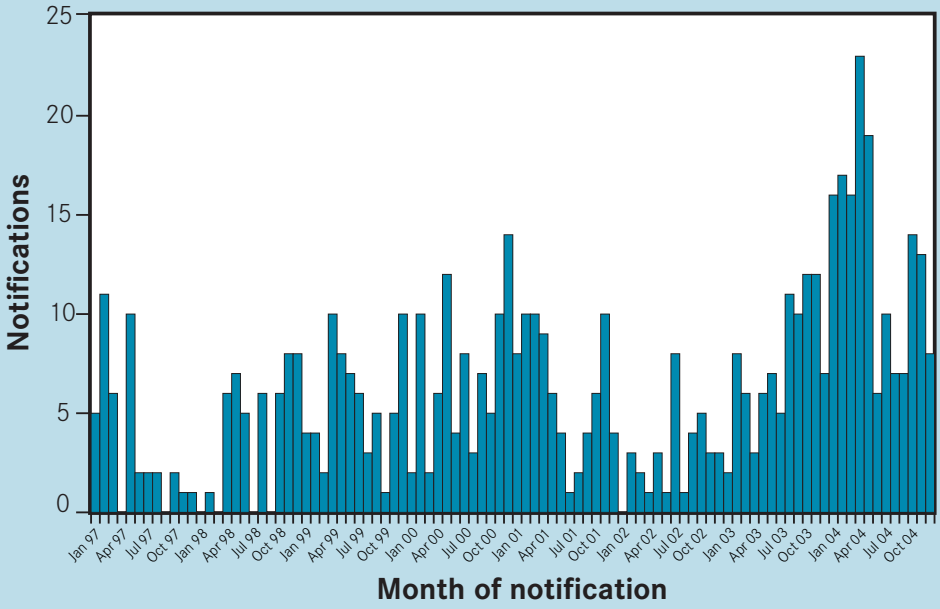
Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

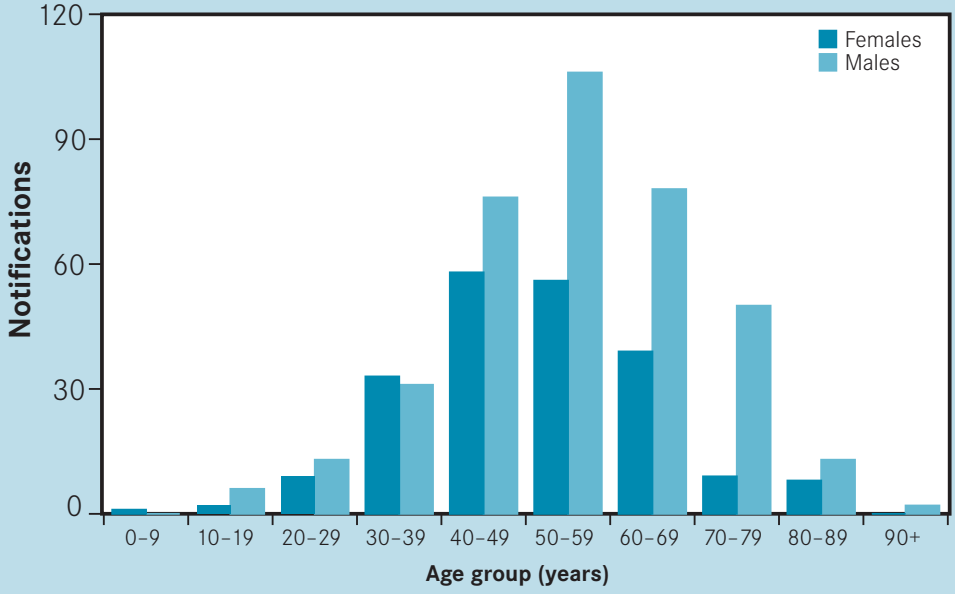
Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Psittacosis notifications

Notified cases of confirmed and probable psittacosis, Victoria, 1997 to 2004



Notified cases of confirmed and probable psittacosis, by age and sex, Victoria, 1997–2004



Psittacosis, caused by *Chlamydia psittaci,* is a zoonosis acquired by contact with infected birds, usually psittacine birds, but also poultry. Numbers of notified cases of psittocosis in Victoria have been increasing over the past few years, with 156 notifications in 2004, 89 in 2003 and 34 in 2002. The most recent outbreaks occurred at a poultry processing plant in rural Victoria (26 cases) and a game processing plant (four cases).

Notified cases by age and sex also reveal a similar pattern to legionellosis, with increasing incidence from young adulthood, and a predominance of males (although this is less marked than with legionellosis).

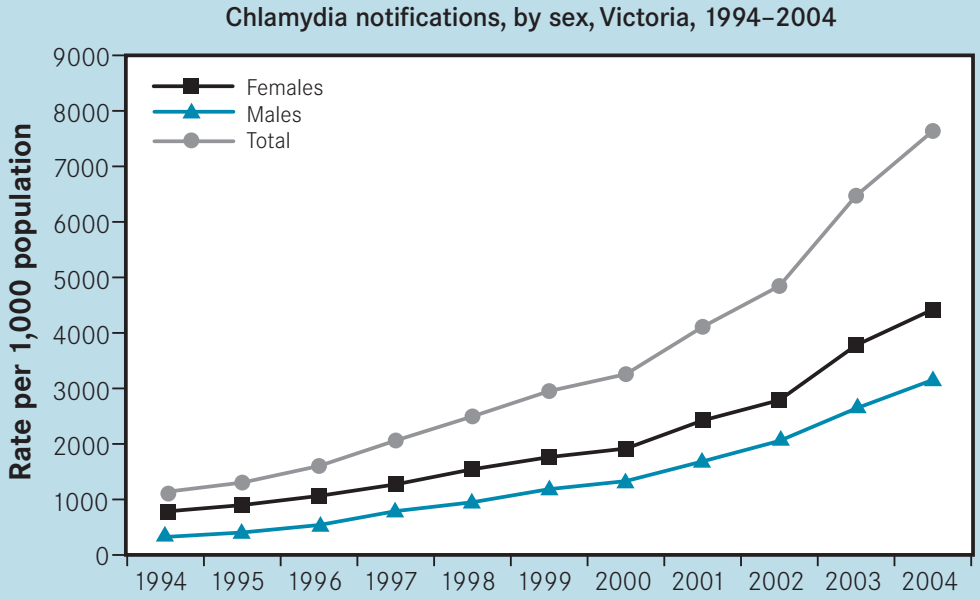
For more information

Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Chlamydia notifications



Notifications	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Females	783	899	1,064	1,272	1,544	1,763	1,917	2,423	2,789	3,779	4,422
Males	325	405	539	790	950	1,186	1,331	1,686	2,055	2,640	3,154
Total	**1,136**	**1,304**	**1,603**	**2,062**	**2,496**	**2,952**	**3,257**	**4,110**	**4,845**	**6,472**	**7,638**

Note: Total notifications include those that are not identified by sex, and may be greater than the sum of male and female notifications.

Chlamydia is a serious sexually transmissible infection (caused by the organism *Chlyamydia trachomatis*) that became a notifiable disease in 1990. Chlamydial infections are predominantly asymptomatic and clinical presentation varies with sex and age. Chlamydia can cause urethritis, cervicitis and pelvic inflammatory disease (PID). The long term consequences of these conditions include tubal infertility, ectopic pregnancy and chronic pelvic pain. Maternal cervical infection with *C. trachomatis* can cause conjunctivitis and pneumonia in infants who are born vaginally to an infected mother.

For surveillance purposes, chlamydia is defined as the demonstration of *C. trachomatis* from a clinical specimen (genital, rectal or urine) by culture, antigen detection methods or a nucleic acid test. Diagnosing practitioners and laboratories in Victoria must notify the Department of Human Services of any newly detected cases.

The incidence of chlamydial infection is difficult to quantify, because up to 70 per cent of sexually active women and 25 per cent of sexually active men with chlamydial infection are asymptomatic. This means that there may be a large number of undiagnosed, untreated individuals who are capable of transmitting the disease.

Since *C. trachomatis* infection first became notifiable, it has been the most commonly notified bacterial sexually transmissible infection. In 2004, there were 7,639 notifications, a 17.9 per cent increase on the total of 6,474 for 2003. Of these, 3,154 were for males (41.3 per cent) and 4,422 for females (57.9 per cent). The median age for males was 26 years (range 19 days to 80 years) and 22 years for females (range one month to 71 years). Notification rates were highest for those aged 20–24 years. The number of notifications has increased almost seven-fold between 1994 (1,136 notifications) and 2004. The increase in notifications over the ten-year period may be due to one or more of the following: improvements in the notification system; increased numbers of tests being conducted; increased use of more sensitive assays; or a true increase in the incidence of *C. trachomatis*.

Transmission of *C. trachomatis* occurs primarily by sexual contact. The surveillance data support the promotion of a safe-sex message and the importance of early detection and treatment. It also further highlights the importance of effective partner notification practices.

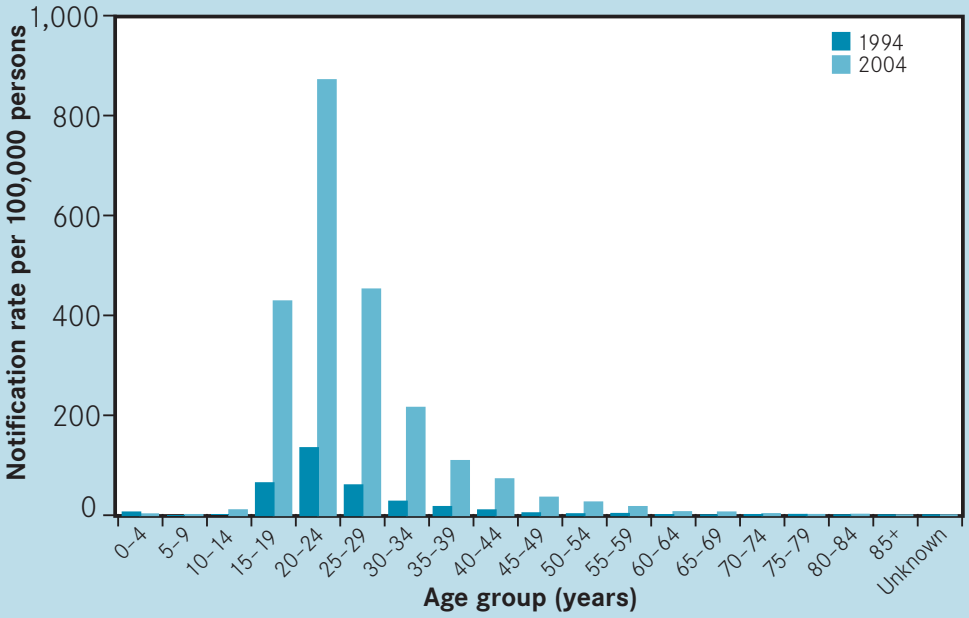
For more information

Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

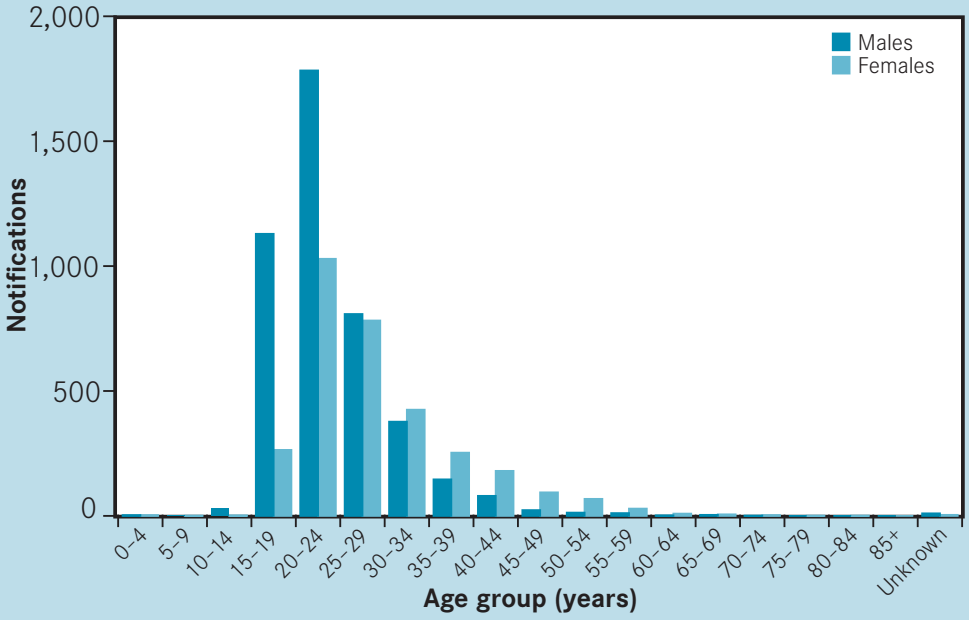
Contact

Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Chlamydia notification rate per 100,000 persons, by age group, Victoria, 1994–2004

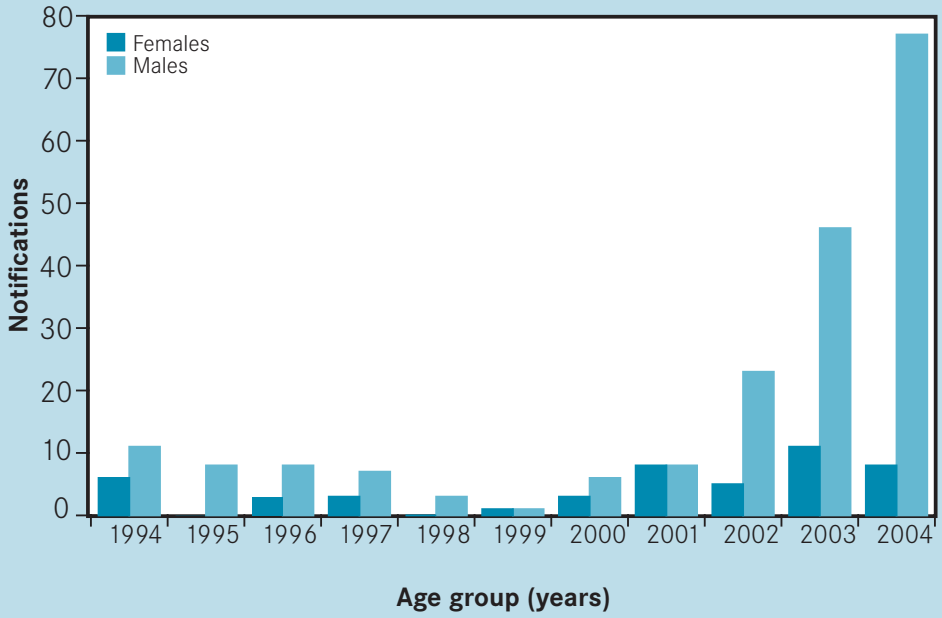


Chlamydia notifications, by sex, Victoria, 2004



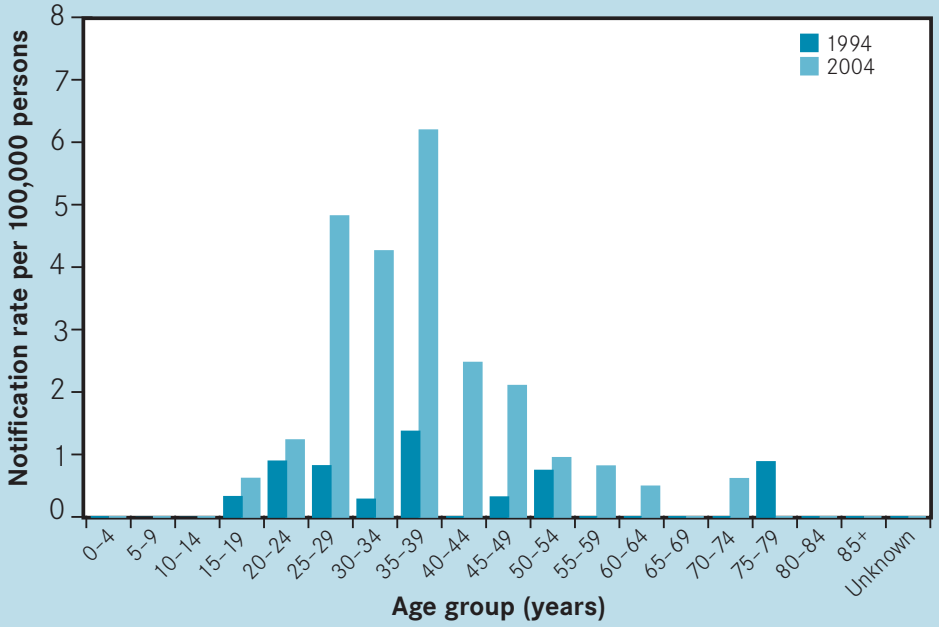
Syphilis notifications

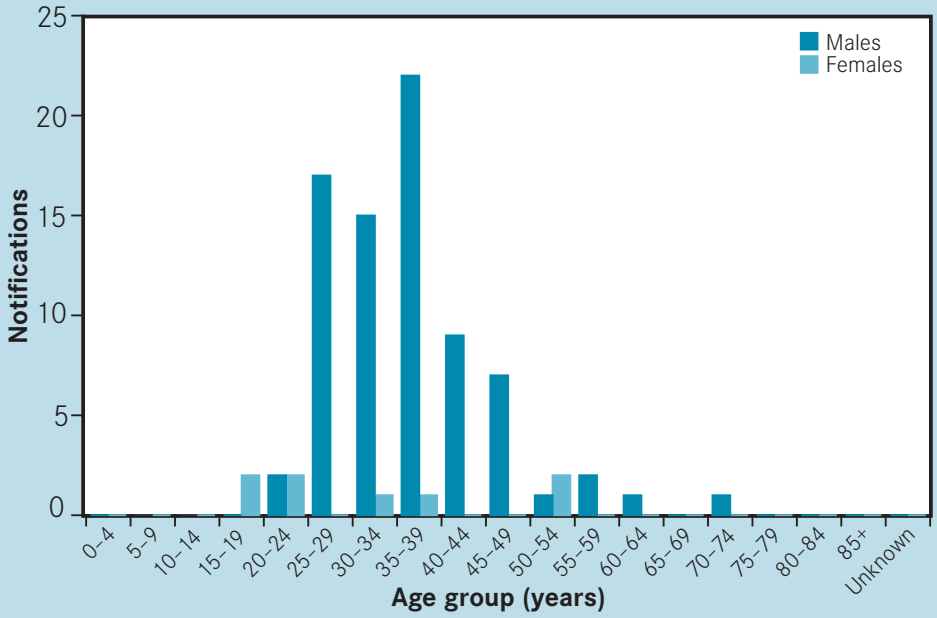
Infectious syphilis notifications, by sex, Victoria, 1994–2004



Notifications	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Females	6	0	3	3	0	1	3	8	5	10	8
Males	11	8	8	7	3	1	6	8	23	45	77
Persons	17	8	11	10	3	2	9	16	28	55	85

Infectious syphilis notification rate per 100,000 persons, by age group, Victoria, 1994–2004





Syphilis is a serious sexually transmissible infection caused by the organism *Treponema pallidum* and characterised by distinct stages of effects over a period of years. Infection causes a primary lesion (chancre) that appears about three weeks after exposure. The chancre may not be noticed by the infected individual. A generalised rash and lymphadenopathy can follow. The disease remains highly infectious at this stage. Cardiovascular or neurosyphilis may develop many years later, causing mental or physical disability or premature death. If untreated, pregnant women can pass the infection to their foetuses (congenital syphilis) resulting in birth defects, including blindness.

Many notified cases of syphilis, particularly among those in older age groups, are likely to represent old, treated infections. Public health staff follow up all cases to ascertain the likely date of infection, thereby ensuring that reported disease rates reflect only new infections. For surveillance purposes, infectious syphilis is defined as primary, secondary or early latent syphilis.

There were 422 notifications of syphilis in 2004. Of these, 85 were classified as infectious, a 55 per cent increase on the 55 notifications received in 2003. The median age of persons notified in 2004 was 35 years (range 18–70 years) and 90.6 per cent were male. Symptomatic infection was the most common reason for testing reported by clinicians.

Increasing notifications of infectious syphilis may indicate a resurgence of the disease in Victoria. Safe-sex practices, early case identification and treatment, and contact tracing are the most effective methods for controlling syphilis.

For more information

Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, facsimile **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Environmental and social health

This section provides indicators of air quality developed with the Environment Protection Authority, and Legionella indicators developed with the environmental health program area (Public Health) of the Department of Human Services. Social and community indicators such as volunteering and trust are based on the 2004 Victorian population health survey, while indicators on weekly earnings, employment, crime rate, and housing are based on Australian Bureau of Statistics data.

Environmental health

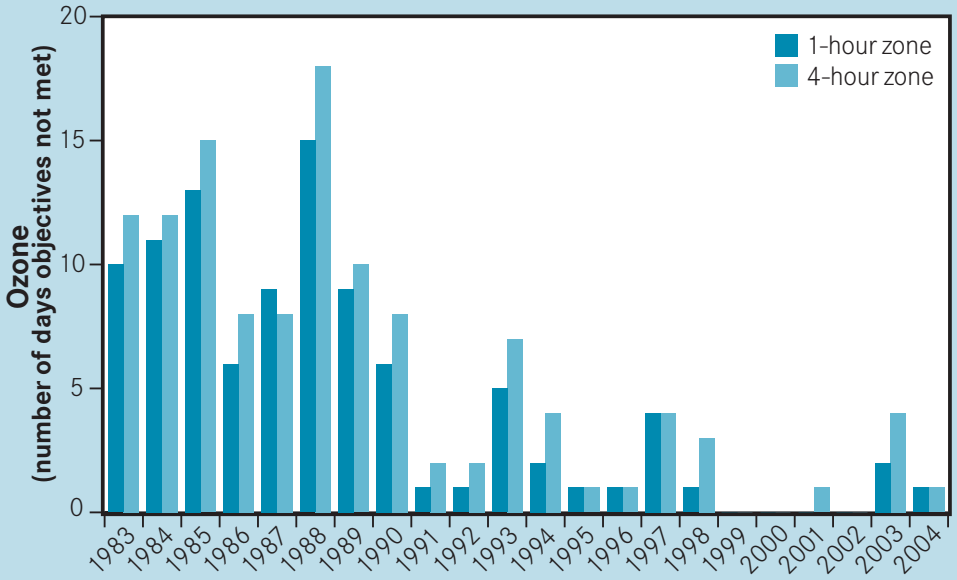
In this chapter

Summary

- In the early 1980s, it was common for the ozone objectives not to be met in Melbourne. Significant improvement has occurred since then with breaches of the objectives recorded recently about once every two years. This is mainly due to progressive improvements in vehicle emission standards.
- With the exception of 2003, Melbourne has been meeting the national goal for particles as PM_{10}. Drought-related impacts (dust storms and bushfires) during the summer in 2003 contributed to the marked increase in particle exceedences.
- The long term trend for visibility in the Melbourne–Geelong region indicates that during the last 20 years, visibility problems have become less frequent. Improvements are a direct consequence of controls placed on industry, motor vehicles and backyard burning, and the efforts of the community in response to Environment Protection Authority education and communication programs.
- The incidence data since 1997 shows relatively steady rates of Legionella infection, with the large outbreak of more than 100 cases in April–May 2001 being associated with the Melbourne Aquarium. Since that time, incidence rates have increased slightly, which may reflect more testing due to better awareness of Legionella as a cause of severe pneumonia.
- Notified cases attributed to *L. pneumophila* have fallen from a high of 239 in 2000, to 70 in 2004. There has been a marked reduction in the number of department-tested cooling tower water samples that were shown to be positive for Legionella. The percentages of Legionella-positive samples were 9.5 in 2000, 7.3 in 2001, 6.6 in 2002, 5.0 in 2003 and a slight increase to 5.6 in 2004.

Air quality (ozone)

Number of days not meeting the ozone objectives in Melbourne–Geelong, 1983–2004 (worst station)



Number of days where ozone air quality objectives were not met, based on the maximum number at a single monitoring station in the Melbourne–Geelong region

Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1-hour ozone	10	11	13	6	9	15	9	6	1	1	5	2	1	1	4	1	0	0	0	0	2	1
4-hour ozone	12	12	15	8	8	18	10	8	2	2	7	4	1	1	4	3	0	0	1	0	4	1

The current national objectives for ozone are 0.10 parts per million for a one-hour average and 0.08 parts per million for a four-hour average. The goal is to have no more than one day a year (by 2008) where the objectives are not met (as measured at each monitoring site).

Ozone is a naturally occurring gas that is common in the lower atmosphere. Ozone is also a pollutant, being the main ingredient in summer smog. Exposure to high levels of ozone can result in increases in asthma attacks and hospitalisations for heart and lung conditions. In the lower atmosphere (the air we breathe), ozone is found naturally in low concentrations. Higher concentrations of ozone are formed when chemical reactions between certain pollutants (nitrogen dioxide and hydrocarbons) take place in the presence of sunlight. Ozone is only a problem between late spring and early autumn, when there is enough warmth and sunlight for the reactions to occur. Note that ozone in the air we breathe should be distinguished from ozone in the stratosphere (the ozone layer), which has the beneficial effect of absorbing harmful radiation.

In the early 1980s, it was a common occurrence for the ozone objectives to be unmet in Melbourne. Significant improvement has occurred since then. In recent years, breaches of the objective have been recorded (on average) about once every two years. This is mainly due to progressive improvements in vehicle emission standards.

Exceptional ozone events may occur if bushfire smoke is blown towards the city; a number of such events occurred in 2003, however, most ozone events are a result of pollution generated in the urban area.

For more information

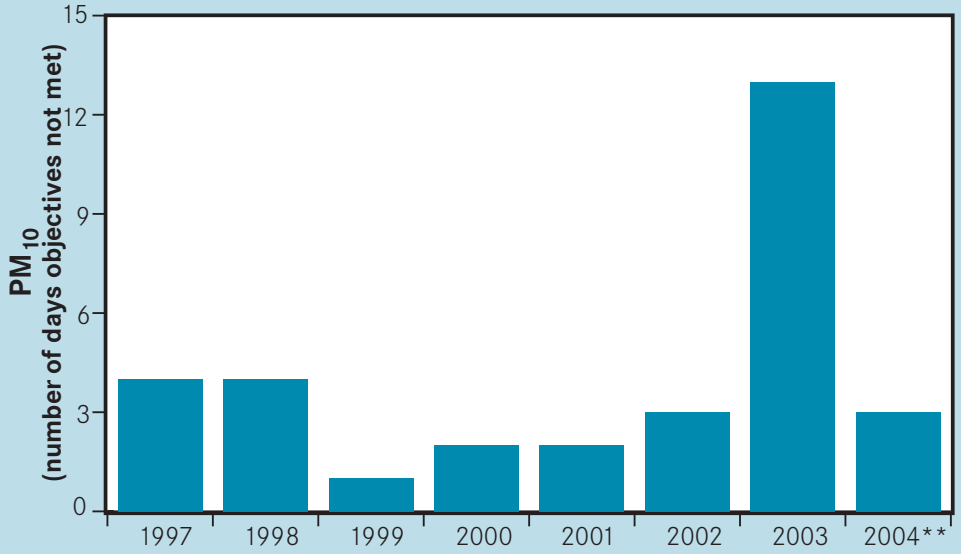
Environment Protection Authority, 2003, *Victoria's air quality–2003*, EPA Publication 951, www.epa.vic.gov.au/Air/Monitoring/monitoring_reports.asp

Contact

Environment Protection Authority, Manager, Air Quality Studies, EPA Victoria, telephone **61 3 8458 2381**

Air quality (particles as PM_{10})

Number of days not meeting particles (PM_{10}) objective in Melbourne, 1997–2004 (worst station)



Number of days where particles (as PM_{10}) objective was met, based on the maximum number at a single monitoring station in Melbourne

Year	1997	1998	1999	2000	2001	2002	2003	2004**
24-hour PM_{10}	4	4	1	2	2	3	13	3

Note: ** Excluding data from Box Hill.

Particles smaller than 10 micrometre (PM_{10}) (less than one-tenth the width of human hair) can exacerbate existing respiratory and cardiovascular disease, which can lead to increases in hospitalisations and premature mortality. The national objective for PM_{10} is a one-day average of 50mg/m^3. The goal is to have no more than five days a year (by 2008) where the objective is not met (as measured at each monitoring site).

The major sources of particles in an urban environment are motor vehicles (particularly diesel powered), industry and wood combustion for heating. Breaches of the objective are highly dependent on weather conditions and events such as bushfires. With the exception of 2003, Melbourne has been meeting the national goal for particles as PM_{10}. Drought-related impacts (dust storms and bushfires) during the 2003 summer contributed to the marked increase in particles exceedences.

For more information

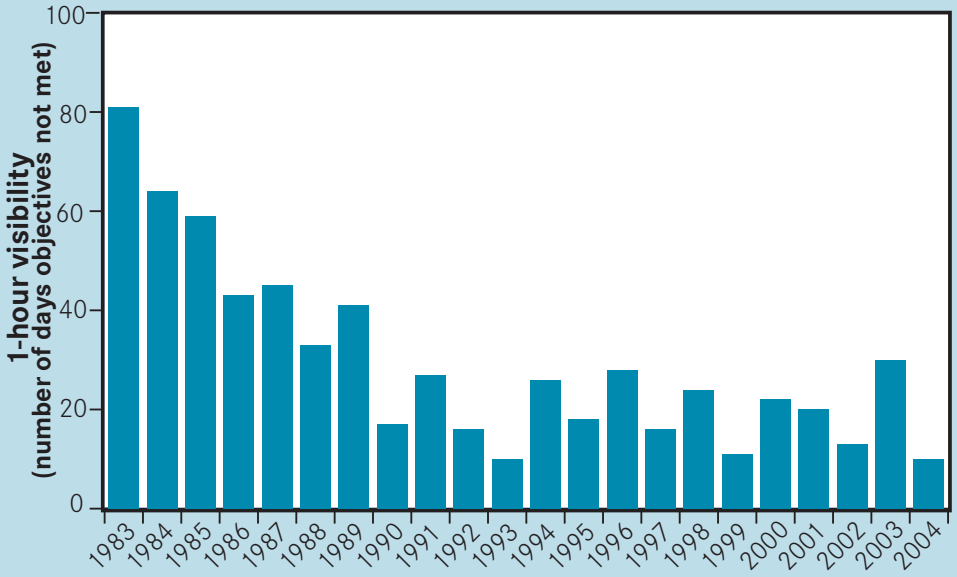
Environment Protection Authority, 2003, *Victoria's air quality–2003*, EPA Publication 951, www.epa.vic.gov.au/Air/Monitoring/monitoring_reports.asp

Contact

Environment Protection Authority, Manager, Air Quality Studies, EPA Victoria, telephone **61 3 8458 2381**

Air quality (visibility reducing particles)

Number of days visibility objective not met in Melbourne–Geelong, 1983–2004 (worst station)



Number of days where the visibility of air quality objective was not met, based on the maximum number at a single monitoring station in the Melbourne–Geelong region

Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1-hour visibility	81	64	59	43	45	33	41	17	27	16	10	26	18	28	16	24	11	22	20	13	30	10

Visibility reducing particles are particles that reduce visual distance and aesthetic enjoyment. The reduction in visibility is typically associated with particles less than 2.5 micrometre ($PM_{2.5}$). These particles can penetrate deeply into the lungs. The Environment Protection Authority (EPA) has a state objective of maintaining a one-hour visibility level of at least 20 kilometres. The goal is to have no more than three days a year (by 2008) where the objective is not met (as measured at each monitoring site).

Visibility problems are mainly a concern in Victoria during autumn and winter, when the use of domestic solid fuel heaters without emission-reducing technology (for example, old wood heaters) and open fires contribute significantly to elevated particle levels.

The long term trend for visibility in the Melbourne–Geelong region indicates that during the last 20 years, visibility problems have become less frequent. Improvements are a direct consequence of controls placed on industry, motor vehicles and backyard burning, and the efforts of the community in response to EPA education and communication programs. Over the last ten years, however, there has been no overall reduction in the number of exceedences.

Days where the objective is not met are highly dependent on weather conditions and events such as bushfires. Drought-related impacts (dust storms and bushfires) during the summer of 2003, for example, contributed to a marked increase in the number of poor visibility days.

For more information

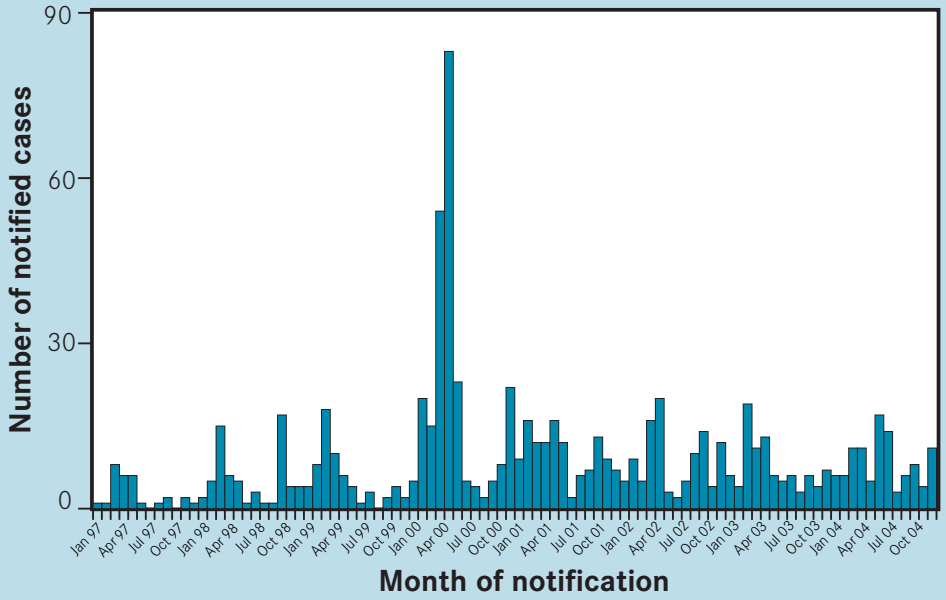
Environment Protection Authority, 2003, *Victoria's air quality–2003*, EPA Publication 951, www.epa.vic.gov.au/Air/Monitoring/monitoring_reports.asp

Contact

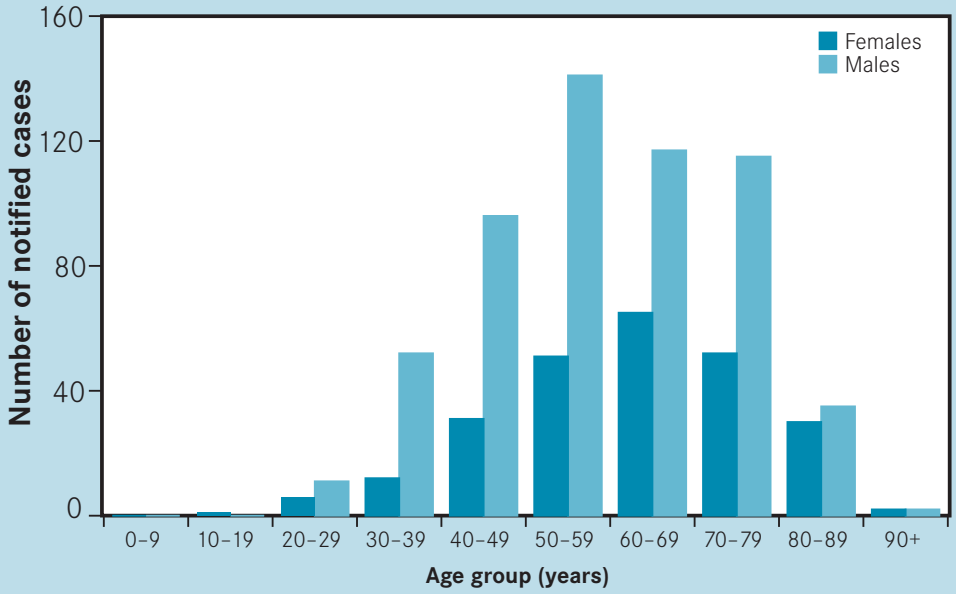
Environment Protection Authority, Manager, Air Quality Studies, EPA Victoria, telephone **61 3 8458 2381**

Legionellosis notifications

Notified cases of confirmed and probable legionellosis, Victoria, 1997–2004



Notified cases of confirmed and probable legionellosis by age and sex, Victoria, 1997–2004



Legionellosis is an acute bacterial disease caused by one of several species of Legionella bacteria. *L. pneumophila* is the most common species affecting humans, with the usual clinical manifestation being pneumonia.

The incidence curve since 1997 shows relatively steady rates of infection, with the large outbreak of more than 100 cases in April and May 2001 being associated with the Melbourne Aquarium. Since that time, incidence rates have increased slightly, which may reflect more testing due to better awareness of Legionella as a cause of severe pneumonia.

The age and sex breakdown confirms the usual pattern of increasing incidence from young adulthood, with males being affected more commonly than females. An increase in cases due to *L. longbeachae* was noted in 2003; many of these cases reported an association with potting mix.

For more information

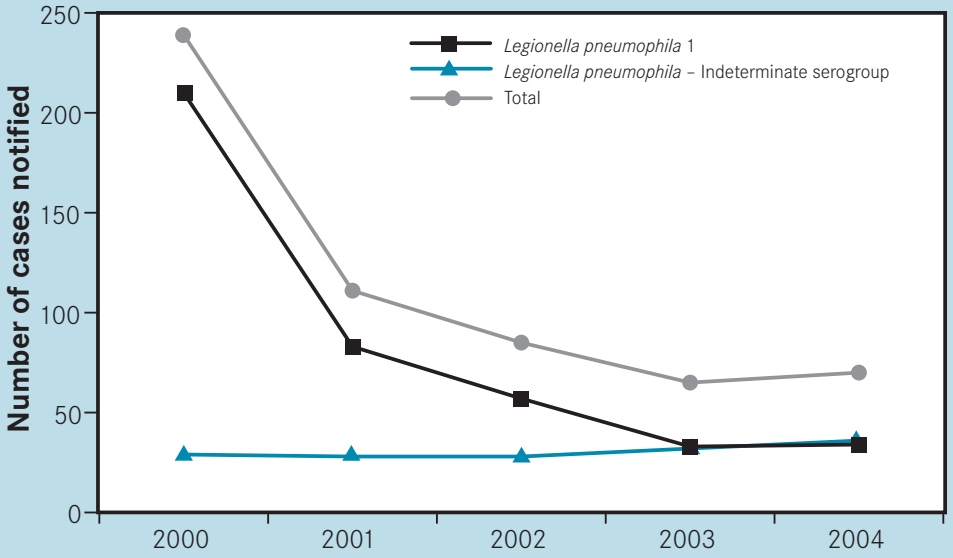
Victorian Government health information, *Infectious diseases epidemiology and surveillance*, www.health.vic.gov.au/ideas/surveillance/index.htm

Contact

Communicable Diseases Section, Public Health, Department of Human Services, telephone **61 3 1300 651 160**, fax: **61 3 1300 651 170**, **infectious.diseases@dhs.vic.gov.au**

Legionella pneumophila cases

Cases of legionellosis attributed to *Legionella pneumophila* Victoria, 2000–2004



		2000	2001	2002	2003	2004
Cases of legionellosis attributed to *Legionella pneumophila*	*L.pneumophila* 1	210	83	57	33	34
	L.pneumophila (indeterminate serogroup)	29	28	28	32	36
	***L.pneumophila* (total)**	**239**	**111**	**85**	**65**	**70**

Note: Number of cases of legionellosis attributed to *L pneumophila* and notified to the Department of Human Services under the Health (Infectious Diseases) Regulations 2001. The figures include both confirmed and probable diagnoses. Separate figures are shown for *L.pneumophila* serogroup 1, *L.pneumophila* (indeterminate serogroup) and total *L.pneumophila* notifications. The figures for 2000 include 125 cases of legionellosis associated with the Melbourne Aquarium outbreak. The above figures do not include other species of Legionella, such as *L.longbeachae*, which have not been associated with outbreaks of legionellosis in Australia.

Source: Department of Human Services, *Notifications of infectious diseases*, Victorian summary report prepared for general release.

Legionellosis is a potentially fatal respiratory disease caused by bacteria belonging to the genus Legionella. It particularly affects the elderly, those with chronic ailments and the immunocompromised.

Cases of legionellosis attributed to *L.pneumophila* are health outcome indicators, one of the measures used to gauge the success of the Victorian Government's Legionella Reform Strategy. The strategy has been progressively implemented since 1 March 2001.

Until recently, each phase of the strategy's implementation has seen a marked reduction in the number of cases of legionellosis attributed to *L.pneumophila* in Victoria. Notified cases attributed to *L.pneumophila* have fallen from a high of 239 in 2000, to 111 in 2001, 85 in 2002, 65 in 2003 and a slight increase to 70 in 2004. While the trend has been generally downward since the new legislation was introduced, some fluctuations are expected.

For more information

Department of Human Services, *Notifications of infectious diseases*, Victorian summary report, www.health.vic.gov.au/ideas/downloads/daily_reports/rptVictorianSummary.pdf

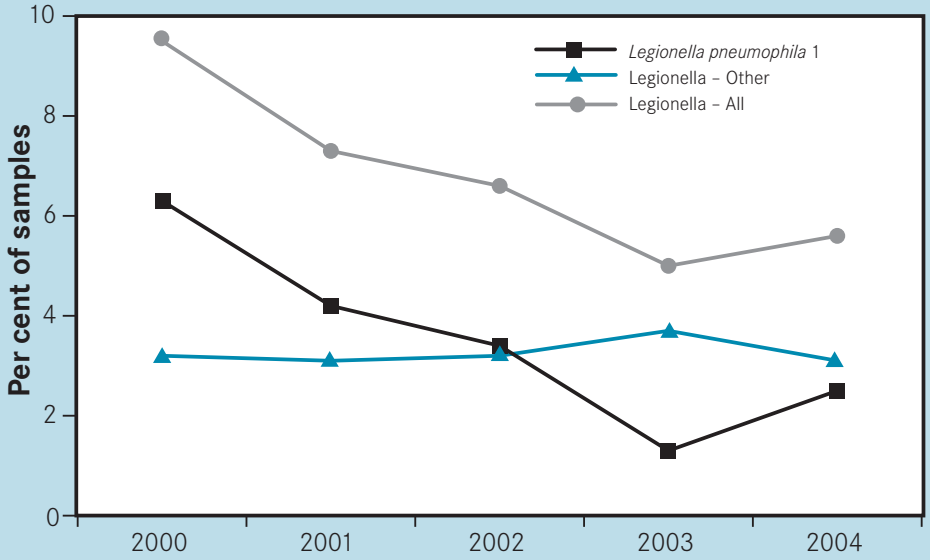
Victorian Government health information website, Environmental health, Legionella, www.health.vic.gov.au/environment/legionella/index.htm

Contact

Ray Goudey, Acting Manager Legionella Program, Environmental Health Unit, Social and Environmental Health Branch, Public Health, Department of Human Services, telephone **61 3 9637 4163**, **Ray.Goudey@dhs.vic.gov.au**

Cooling tower water samples tested positive for Legionella

Percentages of cooling tower water samples taken by the department that tested positive for Legionella, 2000–2004



		2000	2001	2002	2003	2004
Per cent of cooling tower water samples that tested positive for Legionella	*L.pneumophila* 1	6.3	4.2	3.4	1.3	2.5
	Legionella (other types and serogroups)	3.2	3.1	3.2	3.7	3.1
	Legionella (all positive results)	9.5	7.3	6.6	5.0	5.6

Note: Percentages of cooling tower water samples taken by the Department of Human Services that were shown to be positive for Legionella after testing according to Australia Standard AS3896. The threshold limit of detection by this method is ten Legionella per mL. Separate figures are shown for *L. pneumophila* serogroup 1, Legionella (other types and serogroups) and Legionella (all positive results). During the above period, the number of samples taken by the department per year varied within the range of 430 in 2000 to 1200 in 2004. During the same period, the percentage of cooling towers sampled per year varied within the range of 5 per cent in 2000 to 19 per cent in 2004.

Source: Microbiological Diagnostic Unit, Department of Microbiology and Immunology, University of Melbourne, for data prior to 1 April 2001. www.health.vic.gov.au/environment/legionella/index.htm, data since 1 April 2001.

The percentages of cooling tower water samples taken by the Department of Human Services that tested positive for Legionella are exposure-based indicators, measures used to gauge the success of the Victorian Government's Legionella Reform Strategy. The strategy has been progressively implemented since 1 March 2001.

Under the strategy, the department undertakes targeted sampling of the recirculating water of cooling tower systems throughout Victoria. The sampling may occur as part of a routine visit by department staff to a site with a cooling tower system; as part of an investigation into a case of legionellosis; or when investigating a complaint concerning the operation of a cooling tower system.

Until recently, each phase of the strategy's implementation has seen a marked reduction in the number of department cooling tower water samples that were shown to be positive for Legionella on testing. The percentages of Legionella-positive samples were 9.5 in 2000, 7.3 in 2001, 6.6 in 2002, 5.0 in 2003 and a slight increase to 5.6 in 2004. While the trend has been generally downward since the new legislation was introduced, some fluctuations are expected.

For more information

Department of Human Services, *Notifications of infectious diseases*, Victorian summary report, www.health.vic.gov.au/ideas/downloads/daily_reports/rptVictorianSummary.pdf

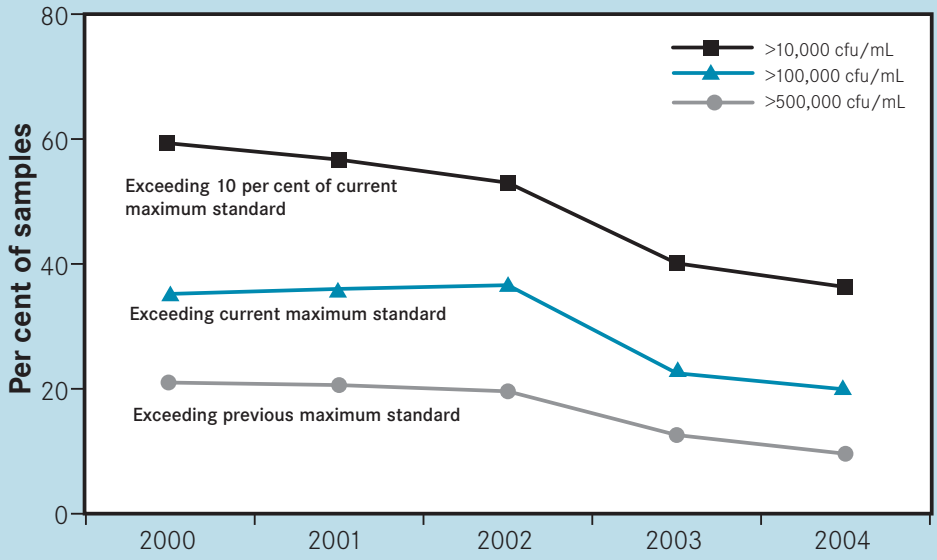
Victorian Government health information, Environmental health, Legionella, www.health.vic.gov.au/environment/legionella/index.htm

Contact

Ray Goudey, Acting Manager Legionella Program, Environmental Health Unit, Social and Environmental Health Branch, Public Health, Department of Human Services, telephone **61 3 9637 4163**, **Ray.Goudey@dhs.vic.gov.au**

Cooling tower water samples in higher ranges for heterotrophic colony count

Percentage of cooling tower water samples taken by the department in different ranges for heterotrophic colony count (HCC), Victoria, 2000–2004



		2000	2001	2002	2003	2004
Percentages of cooling tower water samples in different ranges for HCC	>10,000 cfu/mL	59.3	56.7	53.0	40.1	35.3
	>100,000 cfu/mL	35.2	36.0	36.6	22.5	19.9
	>500,000 cfu/mL	21.0	20.6	19.6	12.6	9.6

Note: Percentages of cooling tower water samples taken by the Department of Human Services that were found to have heterotrophic colony counts (HCC) on testing according to Australian Standard AS4276.3.1:

1. exceeding 10,000 colony forming units per mL (cfu/mL), that is, more than 10 per cent of the current maximum level specified in the Health (Legionella) Regulations 2001.
2. exceeding 100,000 cfu/mL, that is, in excess of the current maximum level of 100,000 cfu/mL specified in the current Health (Legionella) Regulations 2001.
3. exceeding 500,000 cfu/mL, that is, in excess of the previous maximum level of 500,000 cfu/mL specified under the since replaced Health (Infectious Diseases) Regulations 1990.

During the above period, the number of samples taken by the department per year varied within the range of 430 in 2000 to 1200 in 2004. During the same period, the percentage of cooling towers sampled per year varied within the range of 5 per cent in 2000 to 19 per cent in 2004.

Source: Microbiological Diagnostic Unit, Department of Microbiology and Immunology, University of Melbourne, for data prior to 1 April 2001. www.health.vic.gov.au/environment/legionella/index.htm, for data since 1 April 2001.

The percentages of cooling tower water samples taken by the Department of Human Services that failed to meet prescribed standards for HCC are exposure-based indicators, measures used to gauge the success of the Victorian Government's Legionella Reform Strategy. The strategy has been progressively implemented since 1 March 2001.

Under the strategy, the department undertakes targeted sampling to ascertain the HCC of the water of cooling tower systems throughout Victoria. HCC is a useful indicator both of the efficacy of biocidal treatment of cooling tower water, and the general cleanliness of cooling tower systems.

Until recently, each phase of the strategy's implementation has seen marked positive improvements in the percentages of department cooling tower water samples that were shown to surpass or fail to comply with prescribed standards for HCC on testing. While the trend since the new legislation was introduced has been consistently positive, some fluctuations can be expected in the figures in the future.

For more information

Victorian Government health information website, (Environmental health, Legionella), www.health.vic.gov.au/environment/legionella/index.htm

Contact

Ray Goudey, Acting Manager Legionella Program, Environmental Health Unit, Social and Environmental Health Branch, Public Health, Department of Human Services, telephone **61 3 9637 4163**, **Ray.Goudey@dhs.vic.gov.au**

Social and community context

In this chapter

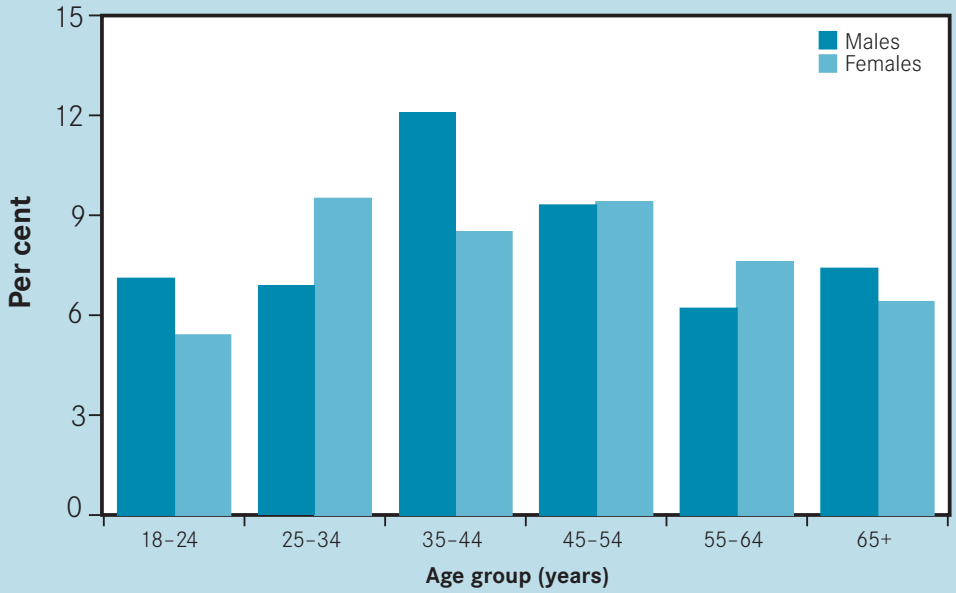
Summary

- In 2004, most adults felt that they could obtain help from friends and family members when needed, while 8.4 per cent of males and 8.0 per cent of females reported they might not.
- Almost one in three persons aged 18 years and over helped out a local group as a volunteer.
- Although most persons felt valued by society, almost one in ten males responded they did not feel valued.
- In 2004, more than 76 per cent of persons agreed that people can be trusted.
- In 2002, there were approximately 1,838,000 households in Victoria, of which 24.3 per cent were lone-person households and 43.6 per cent comprised three or more persons.
- In 2002, there were approximately 1,348,000 families in Victoria, of which 45.0 per cent were couple-only families.
- In 2004, 69.7 per cent of the total Victorian population in the eligible age group received either a full or a part pension.

- In 2004, disability support pensions were paid at a rate of 61.8 per 1,000 persons aged 15–64 years, or 6.2 per cent of people in the eligible age group.
- In 2002, the proportion of individuals who were owners without a mortgage varied by remoteness area–39.3 per cent of those from major cities, 46.2 per cent of those from inner regional areas and 52.1 per cent of those from other areas.
- Private health insurance coverage in Victoria has remained stable between 1999 and 2004, with participation rates for hospital and ancillary coverage of 42.3 per cent and 31.4 per cent respectively at December 2004.
- Persons who did not complete year 12 education varied, from a low of 47.8 per cent in the Eastern Metropolitan Region to a high of 71.5 per cent in the Gippsland Region.
- The years 7–12 retention rates in Victorian schools increased, from 76.2 per cent in 1999 to 81.1 per cent in 2004, which is above the Australian average retention rate of 75.7 per cent.
- In 2001, the average score on the Index of Education and Occupation at the statistical local area level was 991; the median was 969 and the Australian average was 1000.
- The unemployment rate has declined from 11.8 per cent in 1993–94 to 5.7 per cent in 2002–03.
- Over the ten-year period from 1993–94 to 2002–03, the male labour force participation rate has declined from 73.9 per cent to 71.8 per cent while the female participation rate increased from 52.1 per cent to 56.0 per cent. In August 2004, trend average weekly ordinary time earnings for full-time adult employees were $768.10. The figure for males was $927.10 and for females was $590.00.
- The proportion of part-time workers (those who usually work less than 35 hours per week) increased from 24.0 per cent in 1993–94 to 28.7 per cent in 2002–03. The proportion of employees without leave entitlements increased from 21.3 per cent to 25.7 per cent over the five-year period 1999–2003, largely occurring in female employees.
- In 2004, the proportion of individuals who were unable to raise $2,000 within a week for something important ranged from a high of 30.7 per cent of those in the lowest quintile of equivalised gross household income to 3.5 per cent of those in the highest quintile.
- In 2001, the proportion of children who lived in low income families (less than $600 per week) ranged from 13.5 per cent in the Eastern Metropolitan Region to 27.4 per cent in the Gippsland Region.
- In 2003, police recorded a total of 17,140 assaults, a rate of 349 per 100,000 persons. Males were recorded as having the highest assault victimisation rates across all age groups. In 2003, police recorded a total of 52 victims of sexual assault per 100,000 persons. Females represented 85.6 per cent of victims while males represented 8.9 per cent.
- In 2001, the health impact of intimate partner violence in women under the age of 45 years accounted for an estimated 9 per cent of the total disease burden.

Help from family and friends when needed

Persons who are *not* able to obtain help from family or friends when needed, Victoria, 2004



***Un*able to obtain help from family or friends when needed**

Age group (years)	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
18–24	7.1	1.7	5.4	1.5	6.2	1.1
25–34	6.9	1.4	9.5	1.3	8.2	1.0
35–44	12.1	1.9	8.5	1.1	10.3	1.1
45–54	9.3	1.4	9.4	1.2	9.3	0.9
55–64	6.2	1.3	7.6	1.3	6.9	0.9
65+	7.4	1.5	6.4	1.1	6.8	0.9
Total	**8.4**	**0.7**	**8.0**	**0.5**	**8.2**	**0.4**

Note: SE = standard errror.
Source: Department of Human Services, *Victorian population health survey* 2004.

The Victorian population health survey includes questions on ability to obtain help from friends and family when needed. Most adults felt that they could obtain help from friends and family members when needed. Overall, 8.4 per cent of males and 8.0 per cent of females reported they might not be able to get help from family or friends when needed, with 12.1 per cent of males aged 35–54 years being unable to obtain help.

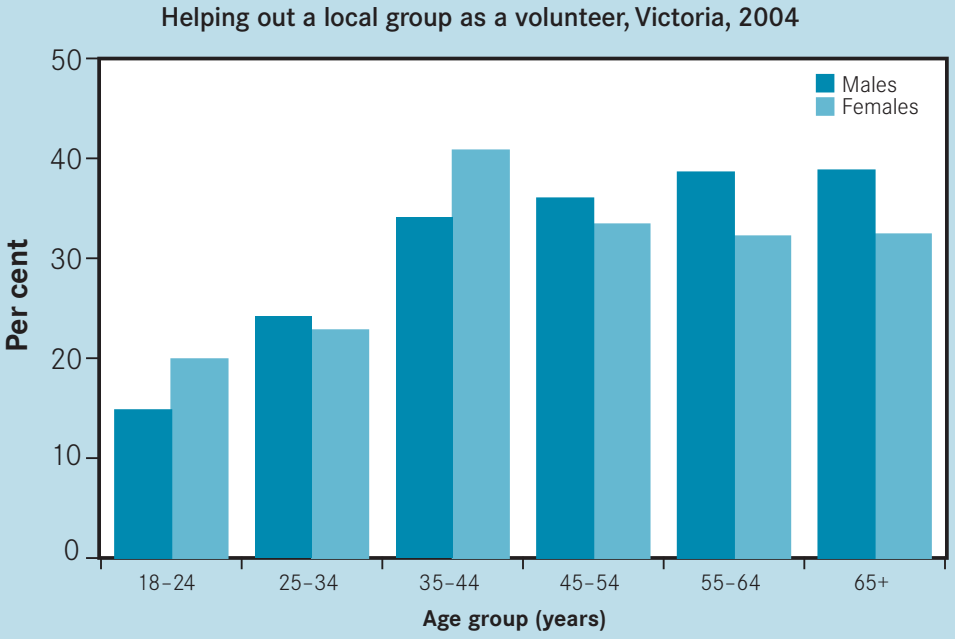
For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Volunteering



Helping out a local group as a volunteer

Age group (years)	Males %	Males SE(%)	Females %	Females SE(%)	Persons %	Persons SE(%)
18–24	14.8	2.6	19.9	2.5	17.3	1.8
25–34	24.2	2.6	22.8	1.8	23.5	1.6
35–44	34.1	2.5	40.8	2.0	37.5	1.6
45–54	36.0	2.5	33.4	2.1	34.7	1.6
55–64	38.6	3.0	32.2	2.3	35.4	1.9
65+	38.8	2.6	32.4	2.0	35.2	1.6
Total	**31.2**	**1.1**	**30.8**	**0.9**	**31.0**	**0.7**

Note: SE = standard errror.

Source: Department of Human Services, *Victorian population health survey 2004*.

Volunteering provides a sense of purpose and connectedness within a group or community. Volunteering helps individuals form interpersonal ties and develop their social networks. People with increased social contact and stronger support networks are healthier, and some experts have concluded that the benefits of social relationships may be as important as health risks such as smoking, physical inactivity and high blood pressure.

The Victorian population health survey measured the amount of voluntary effort undertaken by individuals in their local community. Almost one in three persons (31.0 per cent) aged 18 years and over helped out a local group as a volunteer.

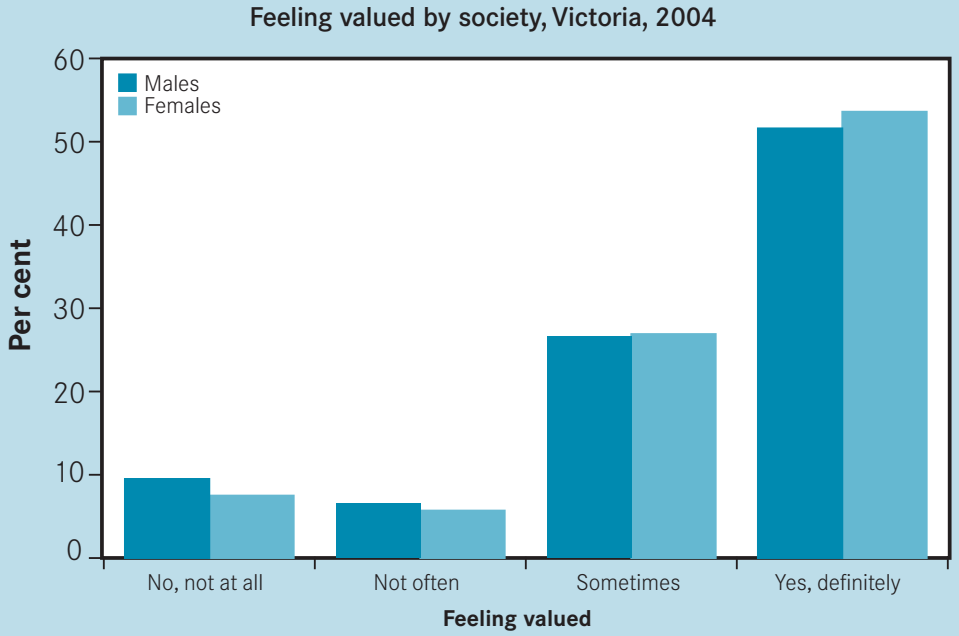
For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health , Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Feeling valued by society



Feeling valued by society

Feeling valued	Males %	Males SE(%)	Females %	Females SE(%)	Persons %	Persons SE(%)
No, not at all	9.5	0.8	7.5	0.5	8.5	0.5
Not often	6.6	0.6	5.7	0.4	6.1	0.4
Sometimes	26.6	1.1	26.9	0.9	26.7	0.7
Yes, definitely	51.6	1.2	53.6	1.0	52.7	0.8

Note: SE = standard errror.

Source: Department of Human Services, *Victorian population health survey 2004*.

Feeling valued by society is important for an individual's health and wellbeing. Although most persons felt valued by society, almost one in ten males (9.5 per cent) responded negatively to this question.

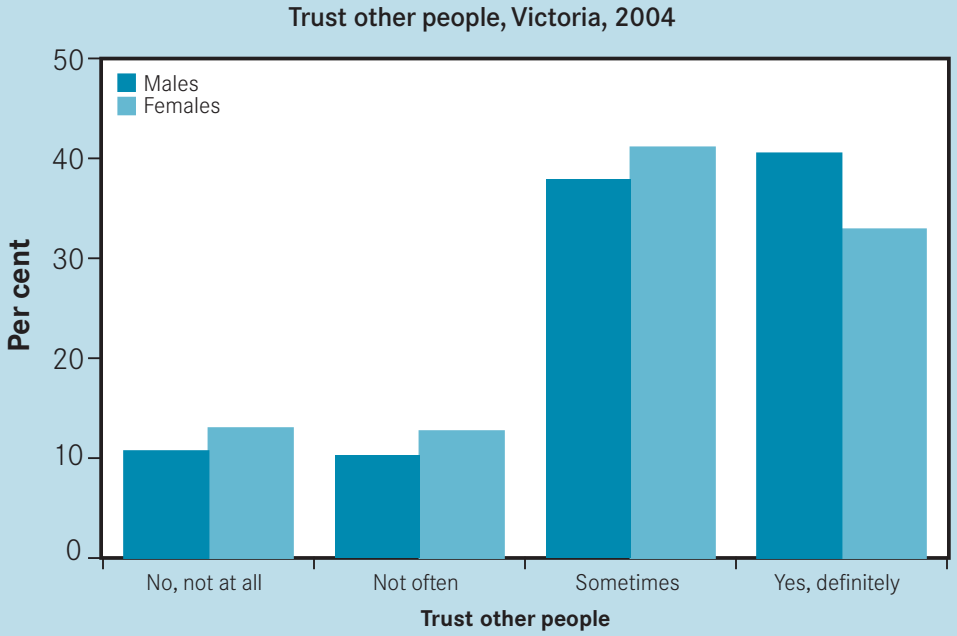
For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health Group), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health Group, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Trust



Trust in other people, Victoria 2004

	Males		Females		Persons	
Trust other people	**%**	**SE(%)**	**%**	**SE(%)**	**%**	**SE(%)**
No, not at all	10.7	0.8	13.0	0.7	11.9	0.5
Not often	10.3	0.8	12.7	0.7	11.5	0.5
Sometimes	37.9	1.2	41.1	1.0	39.5	0.8
Yes, definitely	40.5	1.2	32.9	0.9	36.6	0.7

Note: SE = standard errror.
Source: Department of Human Services, *Victorian population health survey 2004*.

Trust is an important dimension of social capital because it underlies and contributes to the quality and number of interactions between people. Trust underlies all positive social interactions and is a critical component of social cohesion that bonds people in groups and communities through common interests. Most persons agree (either 'sometimes' or 'yes definitely') that people can be trusted.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

Adrian Serraglio, Health Surveillance and Evaluation Section, Public Health, Department of Human Services, telephone **61 3 9637 4308**, **Adrian.Serraglio@dhs.vic.gov.au**

Living arrangements

Family and community living arrangements, Victoria 2002

Total households ('000)	1,838
Total families ('000)	1,348
Couple families ('000)	1,127
Families with children aged under 15 ('000)	540
Average family size	3.1
Lone-person households (per cent)	24.3
Households with three or more persons (per cent)	43.6
Of all couple families	
– couple-only families (per cent)	53.8
– couple-only families with female partner aged under 40 (per cent)	22.8
Of all families with children aged under 15	
– couple families with children aged under 15 (per cent)	78.6
– lone-father families with children aged under 15 (per cent)	2.7
– lone-mother families with children aged under 15 (per cent)	18.8
– families with at least one child aged under five	43.6
Of all children aged under 15 years	
– children aged under 15 living in one-parent families (per cent)	19.0
Proportion of persons aged 20–24 living with parents (per cent)	52.4
Proportion of persons aged 25–34 living with parents (per cent)	16.2
Proportion of persons aged 15–24 who live alone	8.1
Proportion of persons aged 65 and over who live alone	27.6

Source: Australian Bureau of Statistics, *General social survey 2002*.

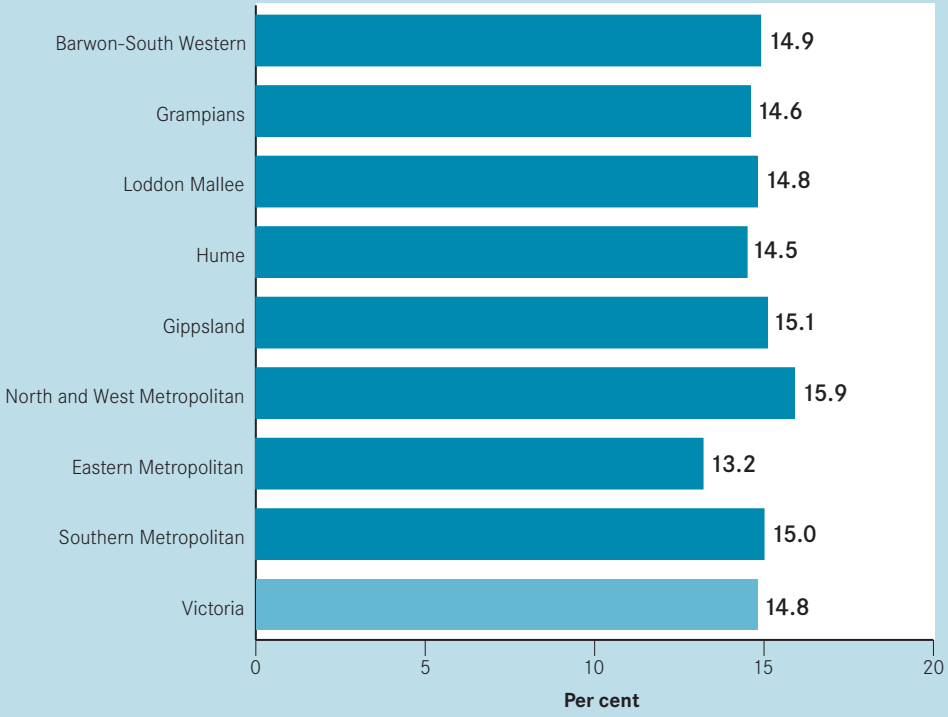
A household is defined as a group of two or more related or unrelated people who usually reside in the same dwelling, who regard themselves as a household and who make common provision for food or other essentials of living; or a person living in a dwelling who makes provision for his or her own food. A household resides in a private dwelling only. There were approximately 1,838,000 households in Victoria in 2002, of which 24.3 per cent were one-person households and 43.6 per cent were households with three or more persons.

For more information

Australian Bureau of Statistics, *General social survey, 2002, Victoria*, Catalogue no 4159.2.55.001. Canberra, 2004, www.abs.gov.au

Single parent families

Single parent headed families, by department region, Victoria, 2001



Source: Australian Bureau of Statistics, *General social survey, 2002*.

A family is defined as two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually resident in the same household. There were approximately 1,348,000 families in Victoria in 2002, of which 45.0 per cent were couple-only families. Approximately 540,000 families (40.1 per cent) included children less than 15 years of age.

Family structures and living arrangements can have a strong impact on the health and wellbeing of children and their parents. Inadequate family income is more common in single-parent families, and family breakdown can also have adverse social and health consequences for children and their parents.

Among families with children under 15 years of age, 78.6 per cent were couple families, 18.8 per cent were lone-mother families and 2.7 per cent were lone-father families. Of all children under 15 years of age, 19.0 per cent belonged to one-parent families.

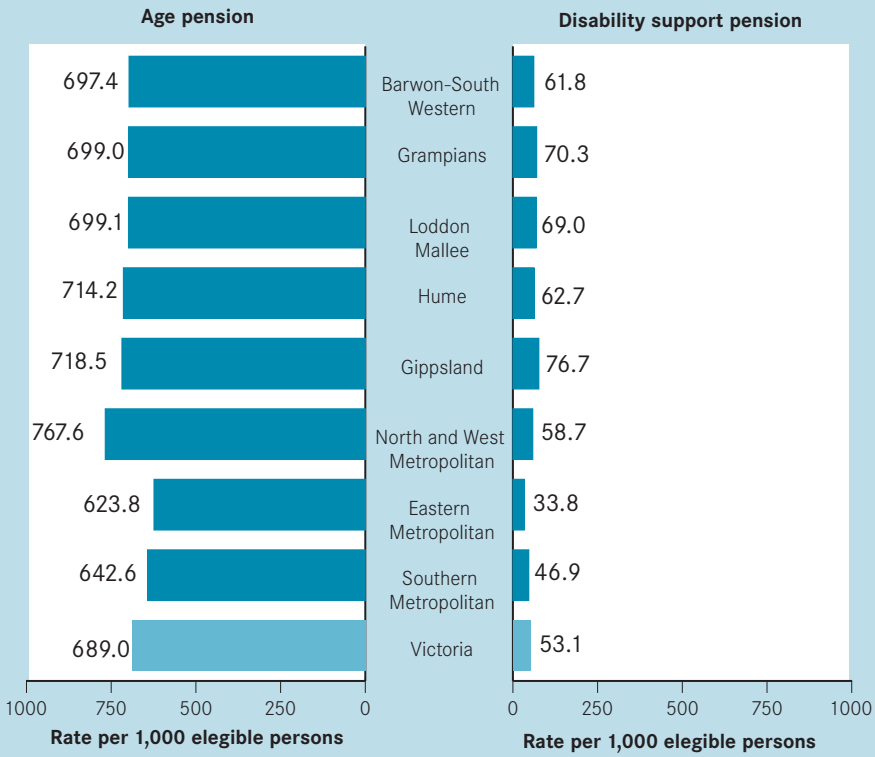
The North and West Metropolitan Region had the largest proportion of one-parent families with children less than 15 years (15.9 per cent) and the Eastern Metropolitan Region had the smallest (13.2 per cent).

For more information

Australian Bureau of Statistics *General social survey, 2002, Victoria*, Catalogue no 4159.2.55.001. Canberra, 2004, www.abs.gov.au

Age pension and disability support pension

Age pension and disability support pension recipients per 1,000 eligible persons, by department region, Victoria, 2001



Source: Centrelink, March quarter, 2004.

The level of receipt of age pension and disability support pensions is an indication of the number of people who are economically disadvantaged and who have a high need for health care services.

Males aged 65 years or over and females aged between 60.5 and 65 years (depending on their date of birth) or over are eligible to receive the age pension, subject to income and assets tests. In Victoria in 2004, 68.9 per cent of the total Victorian population in the eligible age group received either a full or a part pension. The North and West Metropolitan Region had the largest proportion (76.8 per cent) of eligible residents receiving the age pension and the Eastern Metropolitan Region had the smallest proportion (62.4 per cent).

Disability support pensions are paid to persons aged 15 years or over (but under the age pension age) because their disability (physical, intellectual, permanently blind, or psychiatric) prevents them from working. In Victoria in 2004, disability support pensions were paid at a rate of 53.1 per 1,000 persons aged 15–64 years or 5.3 per cent of people in the eligible age group. The Eastern Metropolitan Region had the smallest proportion (3.4 per cent) of eligible residents receiving these benefits and the Gippsland Region had the largest proportion (7.7 per cent).

For more information

Centrelink, www.centrelink.gov.au

Housing tenure type by remoteness areas

Household characteristics of selected persons, by remoteness areas, Victoria, 2002

	Major cities		Inner regional		Other areas		All persons	
	%	RSE(%)	%	RSE(%)	%	RSE(%)	%	RSE(%)
Household tenure type								
Owner without a mortgage	39.3	2.8	46.2	5.0	52.1	12.6	41.3	2.3
Owner with a mortgage	36.8	4.8	32.2	7.4	22.9	24.8	35.3	3.7
Renter	21.9	8.8	17.5	12.1	17.7	29.3	20.8	6.6
	Major cities		**Inner regional**		**Other areas**		**All persons**	
	$	RSE(%)	$	RSE(%)	$	RSE(%)	$	RSE(%)
Income								
Mean equivalised gross household income per week	662	2.4	524	3.4	475	6.1	624	1.9
Selected housing costs								
Mean mortgage payments by mortgagees per week	238	3.2	168	6.5	187	38.1	222	3.3
Mean rent payments by renters per week	178	4.2	114	5.0	106	8.0	163	3.9
Number of persons aged 18 years or over ('000)	2,735	1.2	777	5.8	150	30.0	3,663	0.0

Note: Other areas excludes sparsely settled areas. Not all categories are shown for 'household tenure type'.
RSE = relative standard error.
Source: Australian Bureau of Statistics, *General social survey, 2002*, Victoria, Catalogue no 4159.2.55.001, Canberra, 2004.

Household tenure type in Victoria in 2002 was described by 41.3 per cent of adults as that of an owner without a mortgage. The proportion of individuals who were owners without a mortgage varied by remoteness area–39.3 per cent of those from major cities, to 46.2 per cent of those from inner regional areas and 52.1 per cent of those from other areas.

A little more than one–fifth (20.8 per cent) of those aged 18 years or over were renters and 35.3 per cent were owners with a mortgage. The proportion of individuals who were renters ranged from 17.5 per cent of those in inner regional areas to 21.9 per cent of those in major cities.

The mean rent payment per week was $163.00, compared with a mean weekly mortgage payment of $222.00. In major cities, the mean weekly rental and mortgage payments for the households to which individuals belonged were $178.00 (26.9 per cent of mean equivalised weekly household income) and $238.00 (36.0 per cent of mean weekly equivalised household income) respectively. The mean weekly rental payment in inner regional areas was $114.00 and the mean weekly mortgage payment was $168.00.

For more information

Australian Bureau of Statistics, *General social survey, 2002, Victoria*, Catalogue no 4159.2.55.001. Canberra, 2004, www.abs.gov.au

Housing tenure type by selected characteristics

Household tenure type of selected person aged 18 years or over, by equivalised gross household income quintile, Victoria, 2002

	Household tenure type					
	Owner without a mortgage		Owner with a mortgage		Renter	
	%	RSE(%)	%	RSE(%)	%	RSE(%)
Equivalised gross household income quintile						
Lowest quintile	55.2	5.1	16.9	14.0	25.6	9.6
Second quintile	47.7	6.6	26.3	11.9	22.1	11.0
Third quintile	34.1	7.7	41.0	5.2	22.1	11.8
Fourth quintile	33.5	11.3	46.8	8.0	17.2	18.3
Highest quintile	30.4	9.6	46.5	7.1	21.6	13.1
All persons	**41.3**	**2.3**	**35.3**	**3.7**	**20.8**	**6.6**

Note: RSE = relative standard error. Not all categories are shown for 'household tenure type'. Mean equivalised gross household incomes per week for the lowest to highest quintiles were: $201, $337, $518, $725 and $1,377 respectively.

Household tenure type of selected person aged 18 years or over, by selected household composition categories, Victoria, 2002

	Household tenure type					
	Owner without a mortgage		Owner with a mortgage		Renter	
	%	RSE(%)	%	RSE(%)	%	RSE(%)
Household composition						
Couple only, one family household	57.4	4.0	28.1	7.6	13.4	13.8
One family – couple family	25.3	7.4	58.7	3.3	13.1	12.1
One family – one parent family	16.6	20.2	29.2	12.5	52.6	9.6
Lone person household	51.4	4.3	16.4	10.3	28.2	6.0
All persons	**41.3**	**2.3**	**35.3**	**3.7**	**20.8**	**6.6**

Note: RSE = relative standard errror. Not all categories are shown for 'household tenure type'. One family households with dependent children may also contain non-dependent children but do not contain any other persons. Selected person may be a child 18 years or over. All persons includes persons not included in any of the previous rows.

Source: Australian Bureau of Statistics, *General social survey, 2002*, Victoria, Catalogue no 4159.2.55.001, Canberra, 2004.

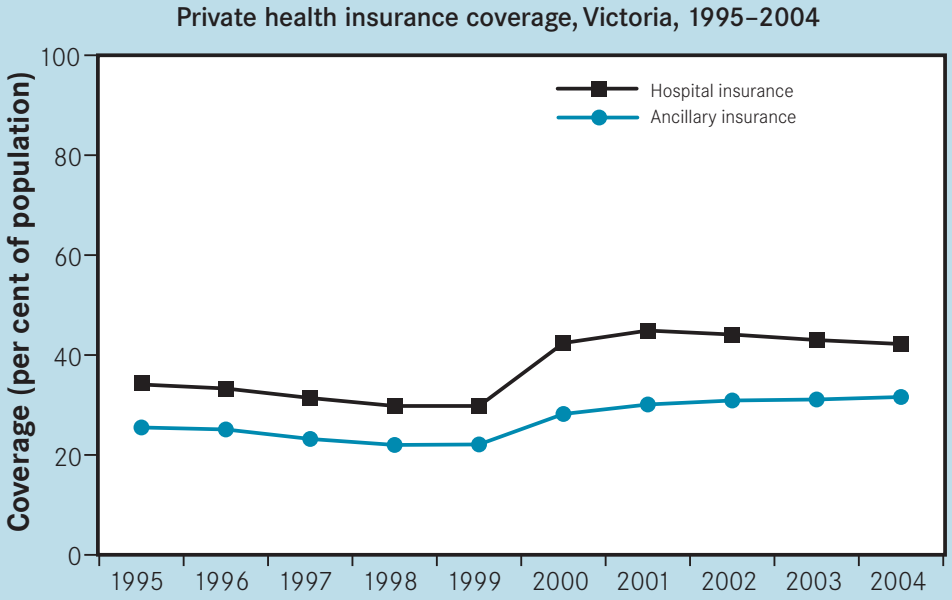
The proportion of individuals from households that rent ranged from a low of 17.2 per cent of those in the fourth quintile of equivalised gross household income to a high of 25.6 per cent of those in the lowest quintile. The proportion of individuals who are owners with a mortgage is almost three times greater for households with equivalised gross incomes in the highest quintile, compared with those in the lowest quintile (46.5 per cent and 16.9 per cent respectively).

More than half (52.6 per cent) of those from one–parent family households are renters, compared with 13.1 per cent of those described as one family – couple family households. The proportion of individuals from households with mortgages is greatest for those who are one family – couple families (58.7 per cent) and lowest for those from lone person households.

For more information

Australian Bureau of Statistics, *General social survey, 2002, Victoria*, Catalogue no 4159.2.55.001, Canberra, 2004, www.abs.gov.au

Trends in private health insurance coverage



Medicare is a tax-financed public health insurance system that is available to all permanent Australian residents. It provides cover for a range of primary care services, including visits to medical practitioners and entitlement to treatment as a public patient in a public hospital, free of direct charge. The Medicare system is supplemented by optional private insurance. Depending on the type of cover purchased, private hospital insurance provides cover for all or part of hospital theatre, accommodation and medical costs in private hospitals, or in public hospitals if individuals choose to be admitted as private patients. Private health insurance also provides cover for ancillary services not insured by Medicare, including private dental services; optical; chiropractic; home nursing; ambulance; and natural therapies. Private health cover is considered to be one of the main vehicles for enhanced choice of provider and level of care.

Participation in private health insurance in Victoria, particularly private hospital insurance, has declined steadily since the introduction of Medicare in 1984. While 34.1 per cent of Victorians had private hospital cover and 25.5 per cent had ancillary cover in 1995, by 1999, the proportion of Victorians with private hospital cover had decreased to 29.8 per cent. The Australian Government introduced several policy initiatives (including a 30 per cent rebate on private health insurance in 1999, and the age-rated Lifetime Health Cover in 2000) that increased participation in private hospital insurance and in ancillary cover by 12.6 per cent and 6 per cent respectively. Private health insurance coverage in Victoria remained stable between 1999 and 2004, with participation rates for hospital and ancillary cover of 42.3 per cent and 31.4 per cent respectively at December 2004.

For more information

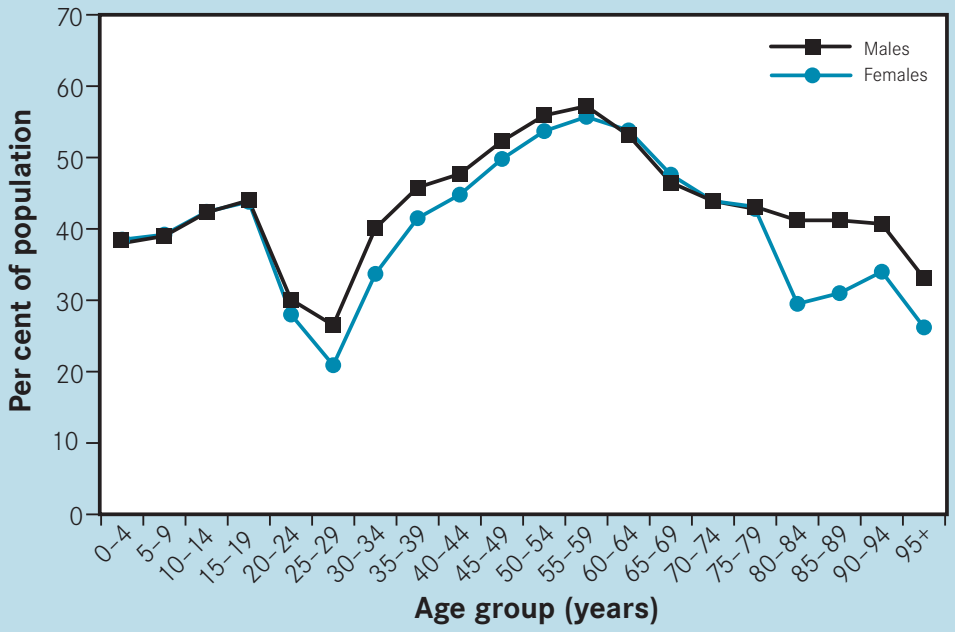
Private Health Insurance Administrative Council website, www.phiac.gov.au/

Contact

Private Health Insurance Administrative Council (PHIAC), telephone **61 2 6215 7900**, **phiac@phiac.gov.au**

Private hospital insurance coverage

Private hospital insurance coverage, by sex and age group, Victoria, December 2004



Private hospital insurance coverage, by sex and age group, Victoria, December 2004

Age group (years)	Males		Females		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
0–4	59,474	38.0	56,243	38.5	115,717	38.3
5–9	64,646	39.0	60,803	39.2	125,449	39.1
10–14	72,409	42.3	68,933	42.4	141,342	42.3
15–19	74,157	44.0	71,875	43.8	146,032	43.9
20–24	49,642	30.1	52,584	28.0	102,226	29.1
25–29	35,804	26.5	45,368	20.9	81,172	23.7
30–34	63,870	40.1	78,694	33.7	142,564	37.0
35–39	75,861	45.8	86,156	41.5	162,017	43.7
40–44	83,993	47.7	91,144	44.8	175,137	46.3
45–49	86,743	52.3	93,028	49.8	179,771	51.1
50–54	85,240	55.9	91,580	53.7	176,820	54.8
55–59	80,971	57.2	83,850	55.7	164,821	56.5
60–64	59,529	53.1	58,749	53.8	118,278	53.4
65–69	43,215	46.5	44,561	47.6	87,776	47.1
70–74	33,351	43.9	36,899	43.9	70,250	43.9
75–79	26,845	43.1	33,815	42.8	60,660	43.0
80–84	11,661	41.2	24,727	29.5	36,388	36.6
85–89	5,140	41.2	13,413	31.0	18,553	37.7
90–94	2,049	40.7	6,214	34.0	8,263	38.8
95+	451	33.1	1,619	26.2	2,070	31.3

Source: Private Health Insurance Administration Council; and Department of Sustainability and Environment, Estimated resident population, 2004.

The proportion of the adult population covered by private hospital insurance is greatest in the age group 55–59 years and lowest in the age group 25–29 years. These proportions range from 26.5 per cent to 57.2 per cent for males. The proportion of the female population with private hospital insurance ranges from 20.9 per cent of those aged 25–29 years to 55.7 per cent of those aged 55–59 years. The proportion of adults aged 80–89 years with private hospital insurance is 41.2 per cent for males, compared with approximately 30 per cent for females.

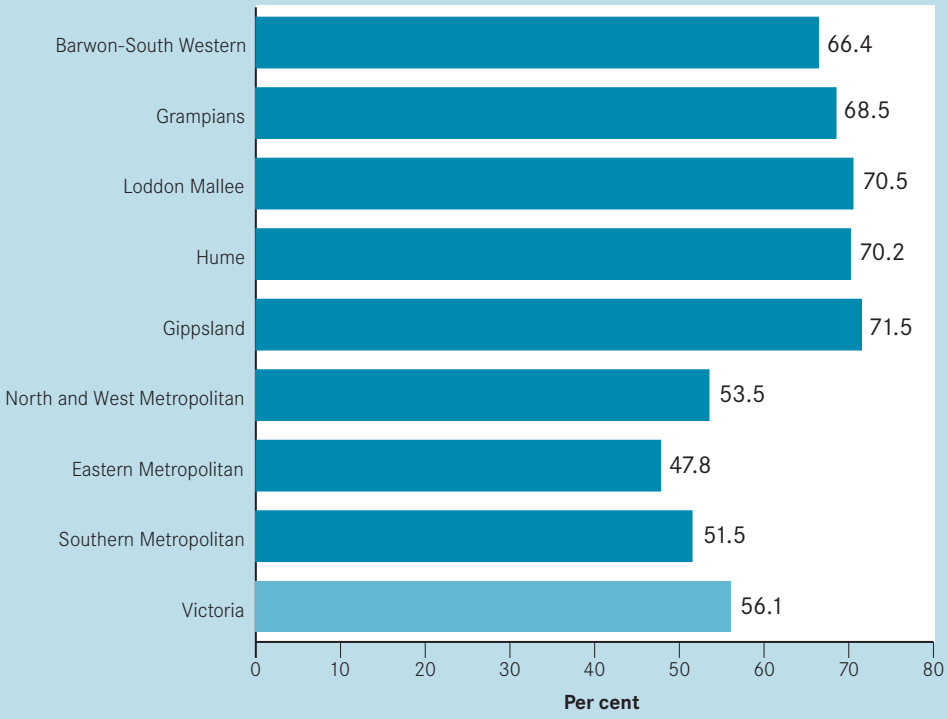
For more information

Private Health Insurance Administrative Council,
www.phiac.gov.au/

Contact

Private Health Insurance Administrative Council (PHIAC),
telephone **61 2 6215 7900**, **phiac@phiac.gov.au**

Education level by department region



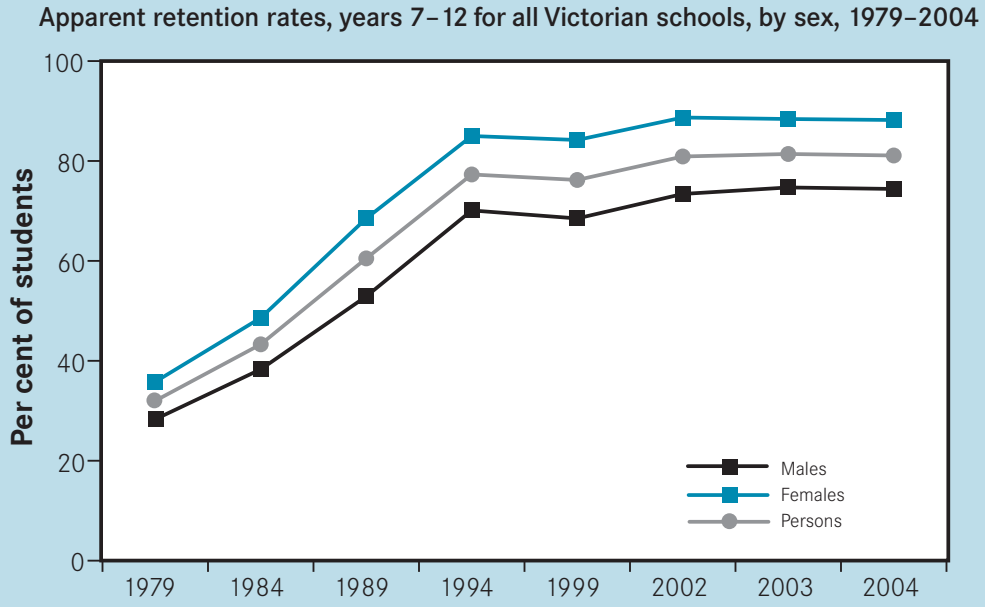
Note: Includes persons who have left school or did not start school or who did not finish year 12 or an equivalent level of education.
Source: Australian Bureau of Statistics, *Census of population and housing*, 2001.

More than half (56.1 per cent) of the Victorian population reported not starting or leaving school before completing the final year of secondary education.

Among the department's regions there was a significant difference in the proportion of the population who had not completed a secondary level education. Persons who did not complete year 12 education varied, from a low of 47.8 per cent in the Eastern Metropolitan Region to a high of 71.5 per cent in the Gippsland Region. The proportion of those who had not finished year 12 or an equivalent level was greater in rural regions.

For further information:
Australian Bureau of Statistics, www.abs.gov.au

Year 12 retention rate



		1979	1984	1989	1994	1999	2002	2003	2004
Per cent of students	**Males**	28.3	38.3	52.9	70.1	68.5	73.4	74.7	74.4
	Females	35.8	48.6	68.5	85.0	84.2	88.7	88.4	88.2
	Persons	32.0	43.3	60.5	77.3	76.2	80.9	81.4	81.1

Note: To calculate the apparent retention rate, the total number of full-time students in year 12 is divided by the number of full-time students in year 7 and the result is converted to a percentage.

Source: Australian Bureau of Statistics, 2005, *Schools, Australia, 2004*, Catalogue no. 4221.0, Canberra.

The lifetime costs of leaving school early include both direct monetary costs and social costs. The costs borne largely by the individual early-school leaver include reduced chances of employment; decreased financial security; fewer opportunities for mobility and job training; and reduced cultural participation. Costs to the government and community due to early school leaving may include increased social welfare costs; increased use of health care services; higher costs of crime prevention and detection; and decreased cohesion within the society (King, 1999).

The year 7–12 retention rates in Victorian schools increased from 76.2 per cent in 1999 to 81.1 per cent in 2004 (more than 2.5 times the rate in 1979). Victoria's retention rate of 81.1 per cent in 2004 was above the Australian average retention rate of 75.7 per cent.

Female students have consistently higher retention rates, for example, the retention rate for females was 88.2 per cent compared with 74.4 per cent for males in 2004.

Reference

King, A., 1999, *The cost to Australia of early school leaving*, Report commissioned by the Dusseldorp Skills Forum, National Centre for Social and Economic Modelling, University of Canberra, Canberra.

For more information

Australian Bureau of Statistics, www.abs.gov.au

Education and occupation by local government area

Notwithstanding the increases in apparent year 7–12 retention rates in recent years, the median proportion of the population who did not complete year 12 was 66.6 per cent (data not shown) across local government areas. The proportion of individuals who left school, did not start school or did not finish year 12 or the equivalent in Victoria in 2001 ranged from 78.9 per cent in the Gannawarra local government area to 20.5 per cent in the Melbourne local government area. A more comprehensive guide to the educational and occupational standing of local government areas is provided by the Index of Education and Occupation.

Based on data from the 2001 Census, the Australian Bureau of Statistics generates a number of indexes that summarise different aspects of the socio-economic conditions in geographic areas. One of these indexes, the Index of Education and Occupation, is designed to reflect the educational and occupational structure of communities.

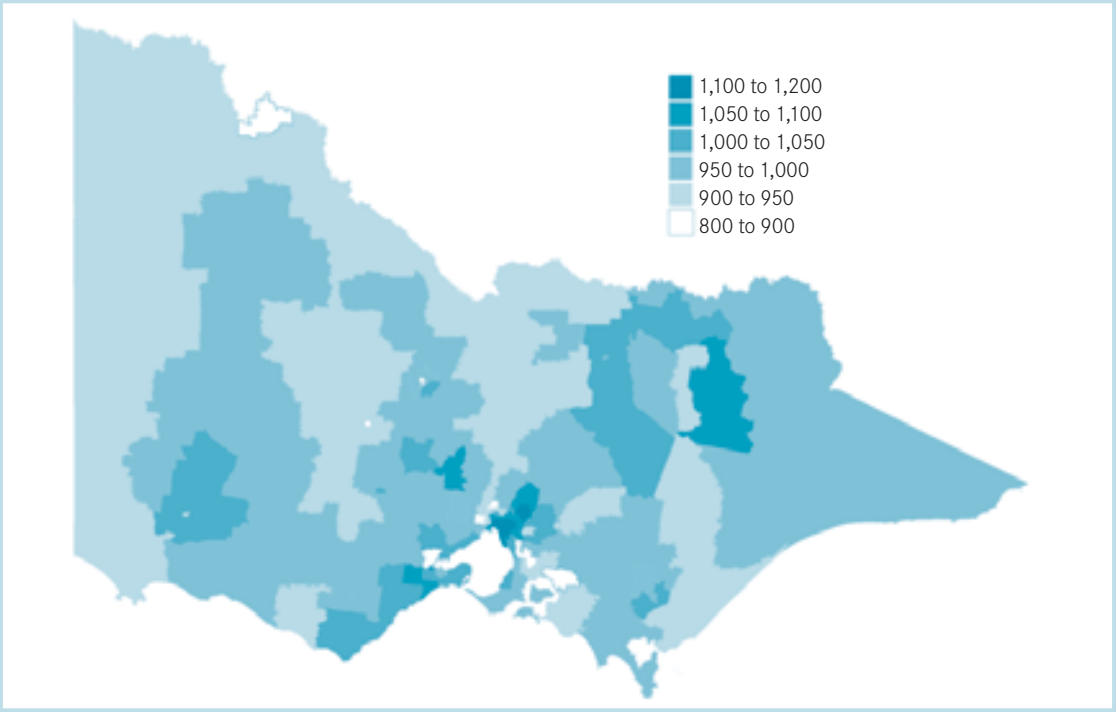
An area with a high score on this index has a high concentration of individuals with higher education qualifications (or undergoing further education) and a high proportion of individuals employed in more skilled occupations. A low score indicates an area that has concentrations of either people with low levels of educational attainment, people employed in unskilled occupations, or the unemployed.

The average score on the Index of Education and Occupation at the statistical local area level in Victoria in 2001 was 991, and the median was 969.

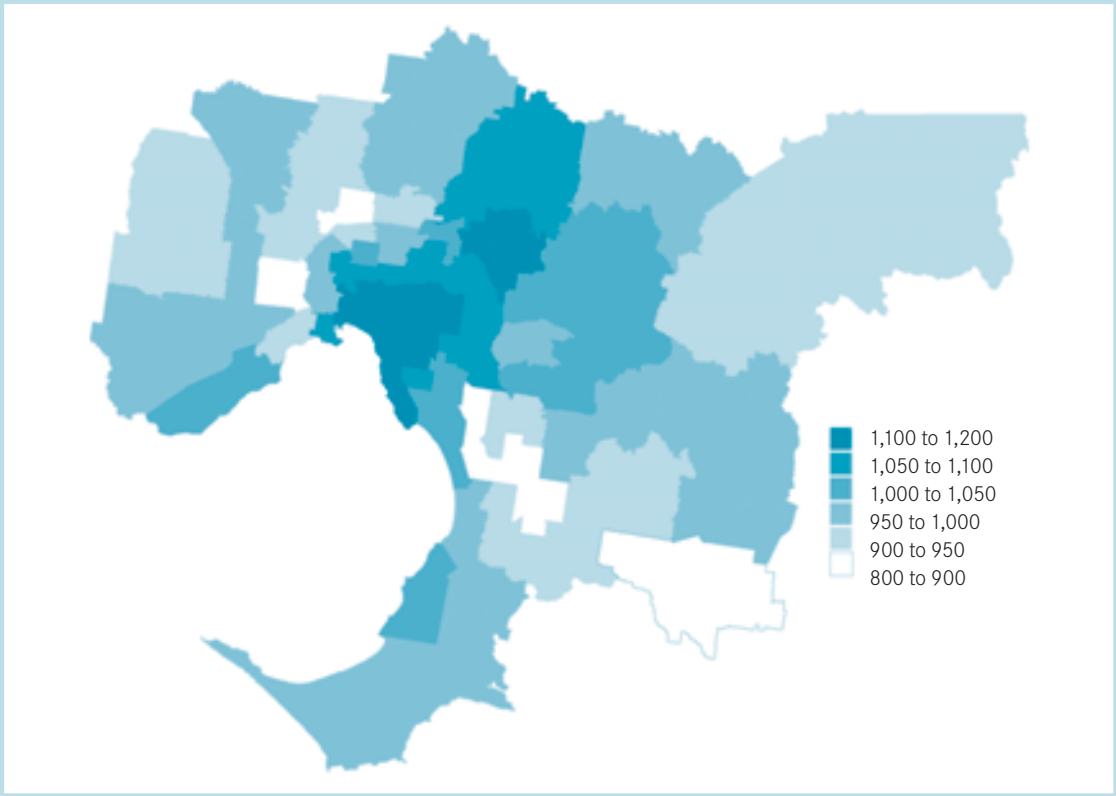
For more information

Australian Bureau of Statistics, www.abs.gov.au

Australian Bureau of Statistics Index of Education and Occupation, Victoria, 2001



Australian Bureau of Statistics Index of Education and Occupation, metropolitan Melbourne, 2001



For more information

Australian Bureau of Statistics, 2003, *Socio-economic indexes for areas*, *Australia*, Information paper; *Census of population and housing, 2001*, Catalogue no 2039.0, Canberra, www.abs.gov.au

Unemployment and labour force participation

Unemployment and labour force participation rates by sex, Victoria, 1994–2003

	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–2000	2000–01	2001–02	2002–03
Labour force										
Total labour force ('000)	2,206.9	2,230.4	2,267.0	2,303.0	2,327.0	2,351.0	2,387.0	2,455.0	2,489.0	2,530.0
Male (per cent)	57.6	57.4	56.9	56.7	56.5	56.6	56.0	56.2	56.2	55.3
Female (per cent)	42.4	42.6	43.1	43.3	43.5	43.4	44.0	43.8	43.8	44.7
Labour force participation										
Persons (per cent)	62.8	63.1	63.5	63.7	63.2	63.0	63.0	63.8	63.7	63.8
Males (per cent)	73.9	73.9	73.8	73.8	73.1	72.9	72.3	73.3	72.9	71.8
Females (per cent)	52.1	52.6	53.6	54.0	53.8	53.5	54.1	54.8	54.9	56.0
Unemployed										
Total unemployed ('000)	260.5	214.4	198.6	209.8	197.6	182.1	157.6	147.9	155.6	143.8
Persons (per cent)	11.8	9.6	8.8	9.1	8.5	7.7	6.6	6.0	6.3	5.7
Males (per cent)	–	–	–	–	8.5	7.8	6.6	6.0	6.3	5.8
Females (per cent)	–	–	–	–	8.4	7.7	6.6	6.0	6.1	5.5
Not in labour force										
Marginally attached ('000)	–	–	–	219.5	221.7	221.7	223.9	197.6	197.0	190.9
Discouraged jobseekers ('000)	31.1	31.8	30.3	32.4	26.8	26.8	26.9	28.0	17.7	17.5

Note: For any group, the labour force consists of those who were employed or unemployed. Unemployed people are those aged 15 years or over who were not employed but were actively looking, and available, for work. The participation rate for any group consists of the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

Discouraged jobseekers consist of persons who were marginally attached to the labour force, wanted to work and who were available to start work within four weeks, but whose main reason for not actively seeking work was that they believed they would not find a job for a number of reasons, including no jobs in their locality or line of work, or no jobs available at all. The marginally attached consist of persons aged 15–69 years who were not in the labour force, wanted to work and were actively looking for work, but were not available to start (or were not actively looking for work) but were available to start work or would have been if child care was available.

Source: Australian Bureau of Statistics, *Australian social trends*, Work–state summary tables, 1995–2005.

The relationship between unemployment and health is complex and varies for different population groups. There is consistent evidence, however, that unemployment is detrimental to health and influences a range of health outcomes, including depression and other mental health related problems, chronic illnesses such as cardiovascular disease, and is associated with high levels of risk behaviours such as smoking.

The unemployment rate is calculated as a percentage of those participating in the labour force, rather than of the entire population of working age. The unemployment rate in Victoria has declined from 11.8 per cent in 1993–94 to 5.7 per cent in 2002–03. The unemployment rate was 5.8 per cent for males and 5.5 per cent for females in 2002–03.

In addition to the decline in the number of individuals classified as unemployed, there has also been a reduction in the number of individuals who were described as discouraged job seekers and marginally attached over the period 1993–94 to 2002–03.

Over the ten-year period 1993–94 to 2002–03, the male labour force participation rate has declined from 73.9 per cent to 71.8 per cent. In the same period, the female participation rate increased from 52.1 per cent in 1993–94 to 56.0 per cent in 2002–03. These participation patterns mean that the proportion of females in the labour force increased from 42.4 per cent in 1995 to 44.7 per cent in 2002–03.

References

Mathers, CD. and Schofield, DJ., 1998, 'Health consequences of unemployment: the evidence', in *Medical Journal of Australia,* Volume 168, pp. 178–82.

For more information

Australian Bureau of Statistics, www.abs.gov.au

Working conditions and security

Working conditions and security by sex, Victoria, 1994–2003

	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–2000	2000–01	2001–02	2002–03
Paid employment										
Total employed ('000)	1,946.3	2,015.9	2,068.0	2,093.0	2,129.0	2,169.0	2,229.0	2,307.0	2,333.0	2,387.0
Part-time employed (percentage of total employed)	24.0	25.0	24.8	25.6	26.1	26.4	26.9	26.9	27.9	28.7
Female part-time workers (percentage of total part-time employed)	–	–	–	–	73.0	72.1	72.6	71.7	71.5	71.8
Persons employed part-time who prefer more hours (percentage of all part-time employed)	29.0	25.5	26.2	26.1	25.4	24.8	22.7	23.8	26.1	25.4
Persons employed part-time who worked 15 hours or less per week (percentage of all part-time employed)	–	–	–	–	52.7	52.5	51.3	51.8	52.3	51.1
Female part-time employed (percentage of total female employed)	–	–	–	43.5	43.8	43.7	44.4	44.7	45.4	46.0
Male part-time employed (percentage of total male employed)	–	–	–	11.8	12.5	13.0	13.2	13.6	14.1	14.7

Employment arrangements	1999	2000	2001	2002	2003
Persons employed without leave entitlements (percentage of all employees)	24.8	21.9	25.2	25.9	25.7
Males employed without leave entitlements (percentage of all male employees)	21.3	30.3	21.6	22.8	22.0
Females employed without leave entitlements (percentage of all female employees)	29.0	25.7	29.3	29.4	30.0

Various measures exist to track changes in the structure of the labour force and associated work conditions and security. These measures include the proportion of the labour force engaged in full-time and part-time employment; the proportion of employees who are employed on a casual basis; average hours worked; overtime worked; and the proportion of the labour force considered underemployed.

The proportion of part-time workers (those who usually work less than 35 hours per week) increased from 24.0 per cent in 1993–94 to 28.7 per cent in 2002–03. Approximately one-half (51.1 per cent) of all part–time workers in 2002–03 worked 15 hours or less per week. Female workers account for the majority (71.8 per cent in 2002–03) of part–time workers.

Casual employment may offer advantages to both employers and employees, by providing individuals with more flexibiity in balancing work, family and study commitments, but may also affect people's capacity to ensure their own and their family's financial security. Apart from job security, there may be flow-on effects that influence other aspects of social life, such as the capacity to purchase property, engage in further education, support superannuation or afford private health insurance.

One measure of the number of casual workers is the number of employees who are not entitled to paid holiday or sick leave (and who receive a casual 'loading' to compensate for not receiving these benefits). The proportion of employees without leave entitlements increased from 21.3 per cent to 25.7 per cent over the five-year period from 1999 to 2003. Over the same period, the proportion of male employees without leave entitlements decreased from 29.0 per cent to 22.0 per cent and the proportion of female employees without leave entitlements increased from 24.8 per cent to 30.0 per cent.

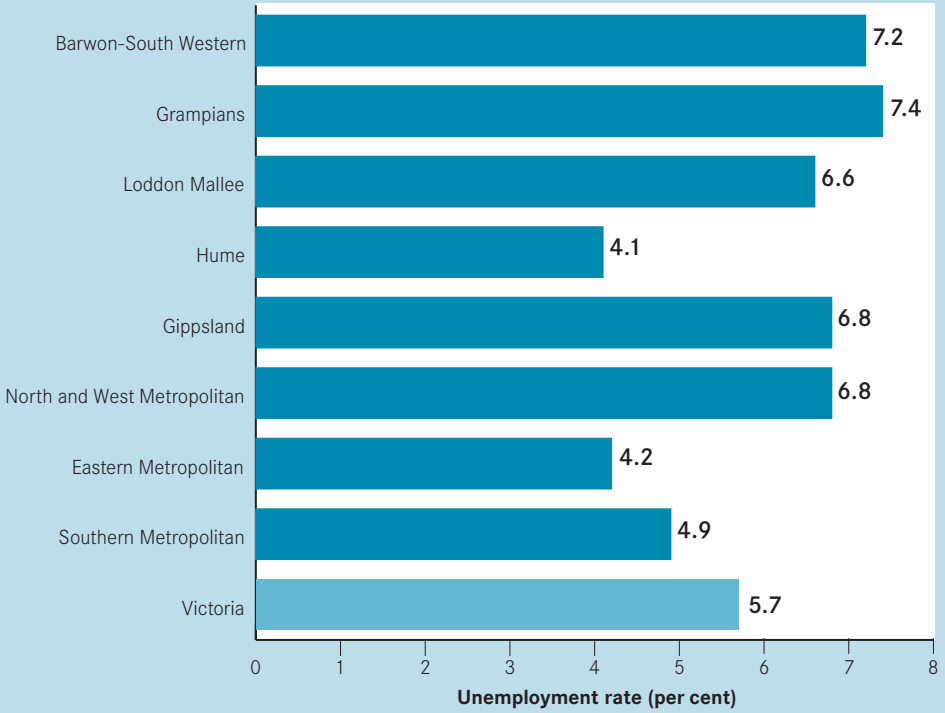
Increased casual employment may also be linked to underemployment. Underemployment, which generally refers to part-time workers who want (and are available for) more hours of work, represents labour resources that are underutilised. There is a strong relationship between movements in unemployment and underemployment over the economic cycle. Approximately one-quarter (25.4 per cent) of persons who worked part-time in 2002–03 wanted more hours of work and were available to start more work.

For more information

Australian Bureau of Statistics, www.abs.gov.au

Unemployment rate by department region

Unemployment rate, by department region, Victoria, September quarter, 2004



Source: Department of Employment and Workplace Relations, September quarter, 2004.

The unemployment rate for Victoria was 5.7 per cent in the 2004 September quarter, however, unemployment and its associated health effects are not distributed evenly throughout the state.

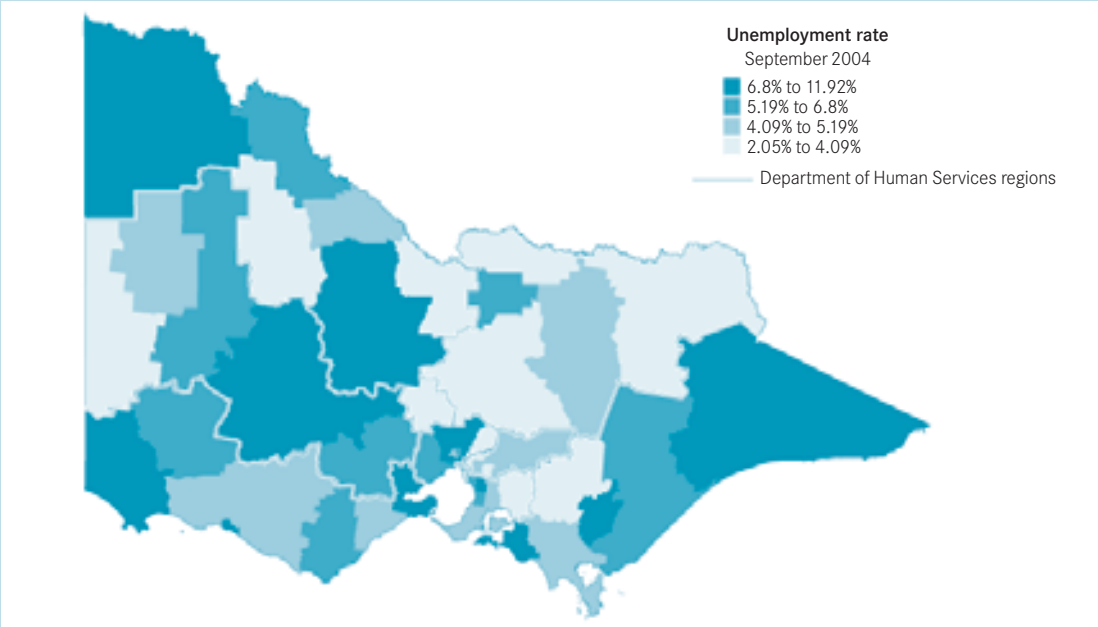
The unemployment rate was higher in the metropolitan regions than in the rural regions, with the exception of the Hume Region. Among the rural regions in the third quarter of 2004, the unemployment rate ranged from 4.1 per cent in Hume Region to 7.4 per cent in the Grampians Region. In the metropolitan regions, the unemployment rate during this period was highest in the North and West Metropolitan Region (6.8 per cent) and lowest in the Eastern Metropolitan Region (4.2 per cent).

For more information

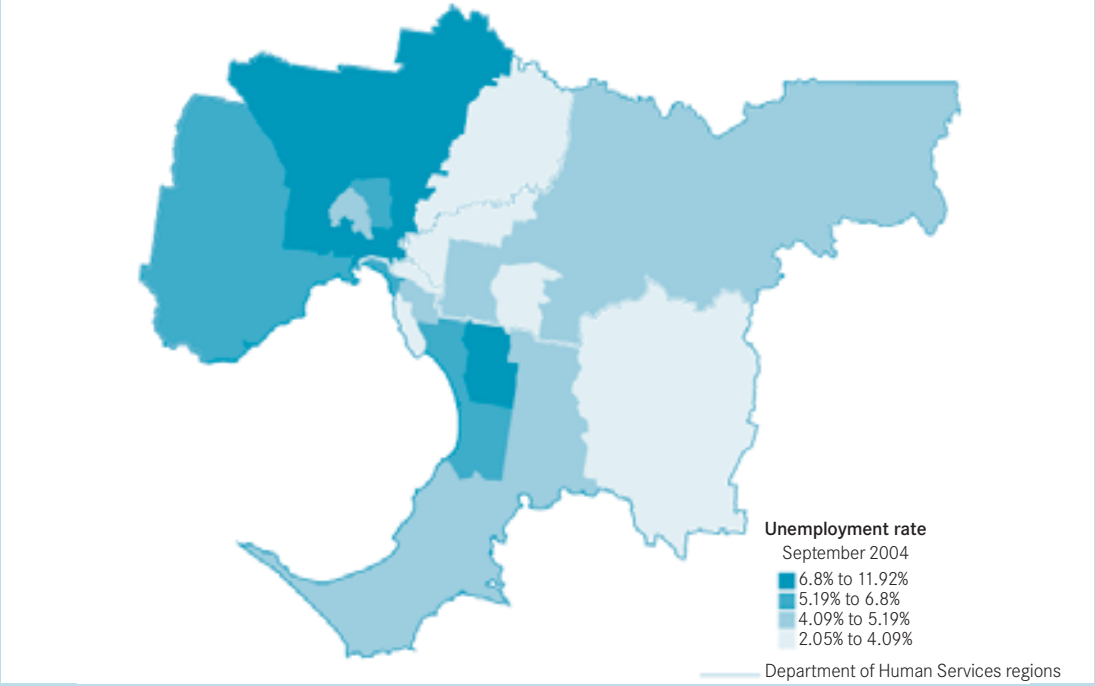
Department of Employment and Workplace Relations, www.dewr.gov.au

Unemployment rate by local government area

Unemployment rate, Victoria, September quarter, 2004



Unemployment rate, metropolitan Melbourne, September quarter, 2004



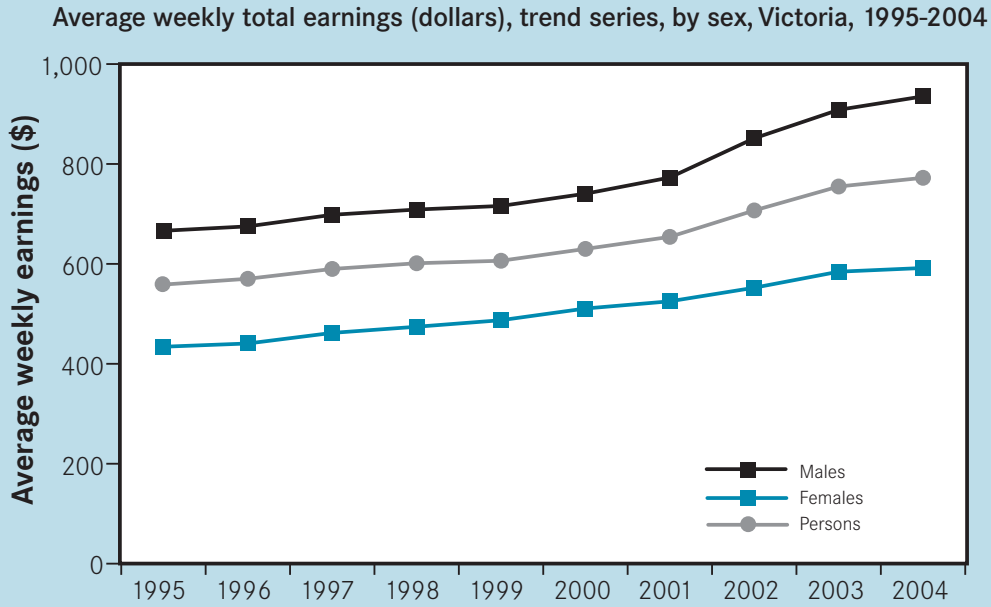
Unemployment is also not distributed evenly within regions, for example, in the 2004 September quarter, unemployment within the Grampians Region ranged from a high of 8.9 per cent in the City of Ballarat to 3.6 per cent in the West Wimmera Shire. In the North and West Metropolitan Region, the unemployment rate ranged from 11.3 per cent in the City of Maribyrnong to 2.1 per cent in Nillumbik.

Most regions (except the Eastern Metropolitan Region), had some local government areas with unemployment rates above the state average unemployment rate of 5.7 per cent for September 2004.

For more information

Department of Employment and Workplace Relations, www.dewr.gov.au

Average weekly earnings



		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Average weekly total earnings – trend	**Males**	666.30	675.10	698.30	708.80	716.00	740.50	772.90	851.40	908.40	935.30
	Females	434.20	440.70	461.90	474.20	487.30	510.70	525.10	552.30	584.40	591.80
	Persons	558.60	570.20	589.90	601.30	606.30	630.00	654.10	707.00	754.90	772.30
	Female/male ratio	0.65	0.65	0.66	0.67	0.68	0.69	0.68	0.65	0.64	0.63

Note: The reference period for the survey refers to the last pay period ending on or before the third Friday of the middle month of the quarter. The reference date for the data reported is the August quarter of each year.

Source: Australian Bureau of Statistics, 2004, *Average weekly earnings, Australia*, Catalogue no. 6302.0, Table 11B, Canberra.

Average weekly earnings statistics represent average gross (before tax) earnings of employees and do not relate to average award rates or to the earnings of the 'average person'. The Australian Bureau of Statistics derives estimates of average weekly earnings by dividing estimates of weekly total earnings by estimates of the number of employees.

Trend average weekly ordinary time earnings for full-time adult employees in August 2004 was $768.10. The figure for males was $927.10 and the figure for females was $590.00. During the period August 2003 to August 2004, male full-time adult trend average ordinary time earnings increased by almost 2 per cent, while the corresponding estimate for females increased by approximately 1 per cent. Both series have increased steadily throughout most of the last ten years.

Changes in averages may be affected not only by changes in the underlying rates of pay, but also by changes in the weekly hours worked (or paid for), and by changes in the composition of jobs in the workforce. Compositional changes can be the result of variations in the proportions of full-time, part-time, casual, adult and junior employment; variations in the occupational distribution within and across industries; variations in the distribution of employees between industries; and variations in the proportions of males and females employed. The ratio of female to male trend average weekly earnings has been stable between 1993 and 2004, varying between 0.63 and 0.69 during this period.

For more information

Australian Bureau of Statistics, 2004, *Average weekly earnings, Australia*, Catalogue no 6032.0, Canberra, www.abs.gov.au

Financial stress

Financial stress of household to whom selected person belongs, by equivalised gross household income quintiles, Victoria, 2002

	Lowest quintile		Second quintile		Third quintile		Fourth quintile		Highest quintile	
	%	RSE(%)	%	RSE(%)	%	RSE(%)	%	RSE(%)	%	RSE(%)
Financial stress										
Unable to raise $2,000 within a week for something important	30.7	6.5	18.5	11.6	14.1	18.2	8.3	16.7	3.5	26.4
Had at least one cash flow problem in last 12 months	23.3	7.3	20.1	12.1	24.7	10.3	17.1	21.4	12.2	27.2
Took at least one dissaving action in last 12 months	19.2	11.1	17.9	14.9	20.8	16.1	18.5	21.4	16.5	13.4
Mean equivalised gross household income per week	$201		$337		$518		$725		$1,377	

Note: RSE = relative standard error.

Source: Australian Bureau of Statistics, 2004, *General social survey, 2002*, Victoria, Catalogue no 4159.2.55.001, Canberra.

The proportion of individuals who were unable to raise $2,000 within a week for something important ranged from a high of 30.7 per cent of those in the lowest quintile of equivalised gross household income to 3.5 per cent of those in the highest quintile.

Between one-fifth and one-quarter of individuals in the lowest to third quintiles of equivalised gross household income reported having had at least one cash flow problem in the last 12 months, compared with 12.2 per cent of those in the highest quintile.

The proportion of individuals who reported taking at least one dissaving action in the last 12 months was similar across quintiles of equivalised gross household income, ranging from 20.8 per cent of those in the third quintile to 16.5 per cent of those in the highest quintile.

For more information

Australian Bureau of Statistics, 2004, *General social survey, 2002, Victoria,* Catalogue no 4159.2.55.001, Canberra, www.abs.gov.au

Household income less than $600 per week by local government area

Income is a key factor in determining the standard of living of most Victorian households. It influences both their access to economic resources and services, and their ability to participate fully in society.

A household is defined 'as a person living alone, or a group of related or unrelated people who usually reside together and make common provision for food or other essentials for living' (Australian Bureau of Statistics, 2003). In practice, most dwellings contain a single household.

Gross household income is the combined gross incomes (before tax and other deductions are removed) of all the usual residents of the household. Unlike equivalised gross household income, gross household income is not adjusted for household size and composition.

Households with a gross total household income of less than $600 per week are regarded as being toward the lower end of the distribution of gross household income per week. The Australian Bureau of Statistics 2002 general social survey of Victoria revealed that mean gross household income per week was $1,060 for all households; $521 for lone person households; $588 for one–family one–parent households with dependent child/ren; and $1,483 for one–family couple families with dependent child/ren.

There was considerable variation between and within regions in the proportion of households with a gross income of less than $600 per week in 2001. The proportion of households with a gross total household income of less than $600 per week was generally higher in rural regions compared with metropolitan regions.

In the local government areas in the Barwon–South Western Region, the proportion of households with a gross total household income below this threshold ranged from 33.3 per cent to 43.3 per cent.

Among local government areas in the Grampians Region, the highest proportion of households with a gross total household income of less than $600 per week was 49.3 per cent and the lowest proportion was 31.1 per cent.

The within-region difference in the proportion of households with a total income of less than $600 per week for local government areas was greatest in the Loddon Mallee Region, where the proportions ranged from 28.0 per cent to 53.7 per cent.

For local government areas in the Hume Region, the highest and lowest proportions of households with a gross total income of less than $600 (46.9 per cent and 32.5 per cent respectively) were similar in level and range to those for the Barwon–South Western Region.

Within the Gippsland Region, the proportion of households with a gross total household income of less than $600 per week ranged from a low of 38.4 per cent to a high of 51.7 per cent in its constituent local government areas.

For local government areas in the North and West Metropolitan Region, the proportion of households with total incomes less than $600 per week ranged from 16.1 per cent to 39.2 per cent.

The Eastern Metropolitan Region had the smallest range across local government areas in the proportion of households with a total gross income of less than $600 per week, with a low of 22.5 per cent and a high of 29.6 per cent.

In local government areas in the Southern Metropolitan Region, the proportion of households with lower gross total household income varied from almost one-quarter (24.7 per cent) to more than one-third (37.3 per cent).

Within local government areas in Victoria, the proportion of households with an income of less than $600 per week ranged from 16.1 per cent to 53.7 per cent.

References

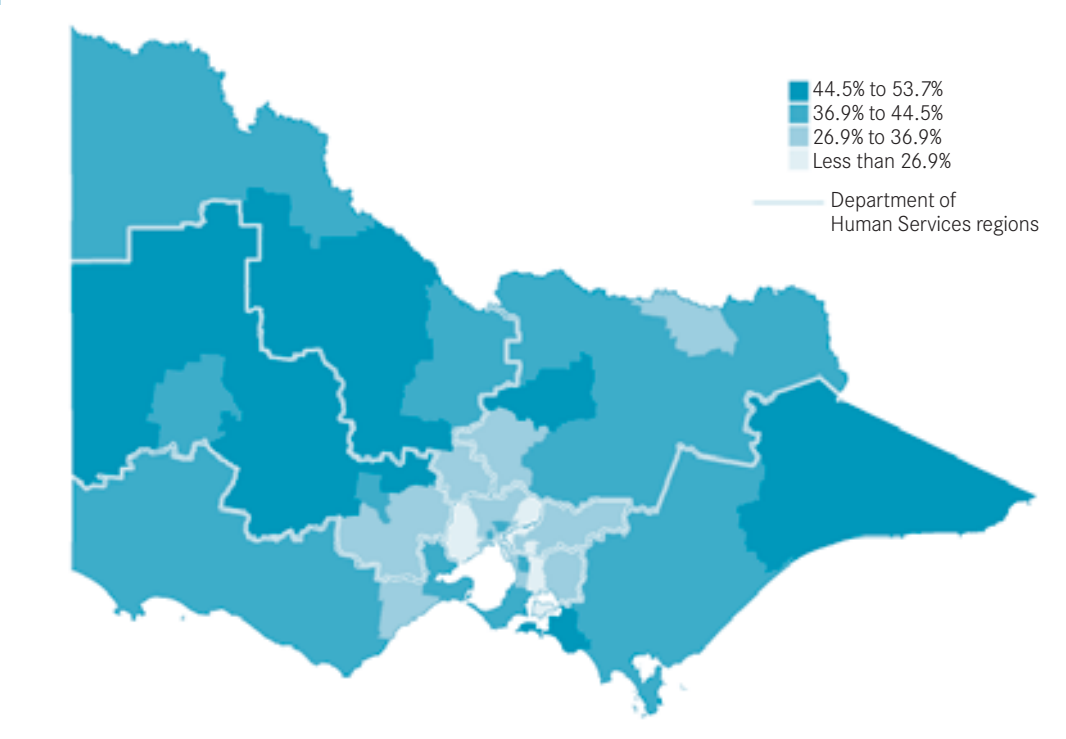
Australian Bureau of Statistics, 2003, A*ustralian social trends, economic resources: income distribution: the geography of income distribution*, Canberra.

Australian Bureau of Statistics, 2004, *General social survey, 2002, Victoria*, Catalogue no 4159.0, Canberra.

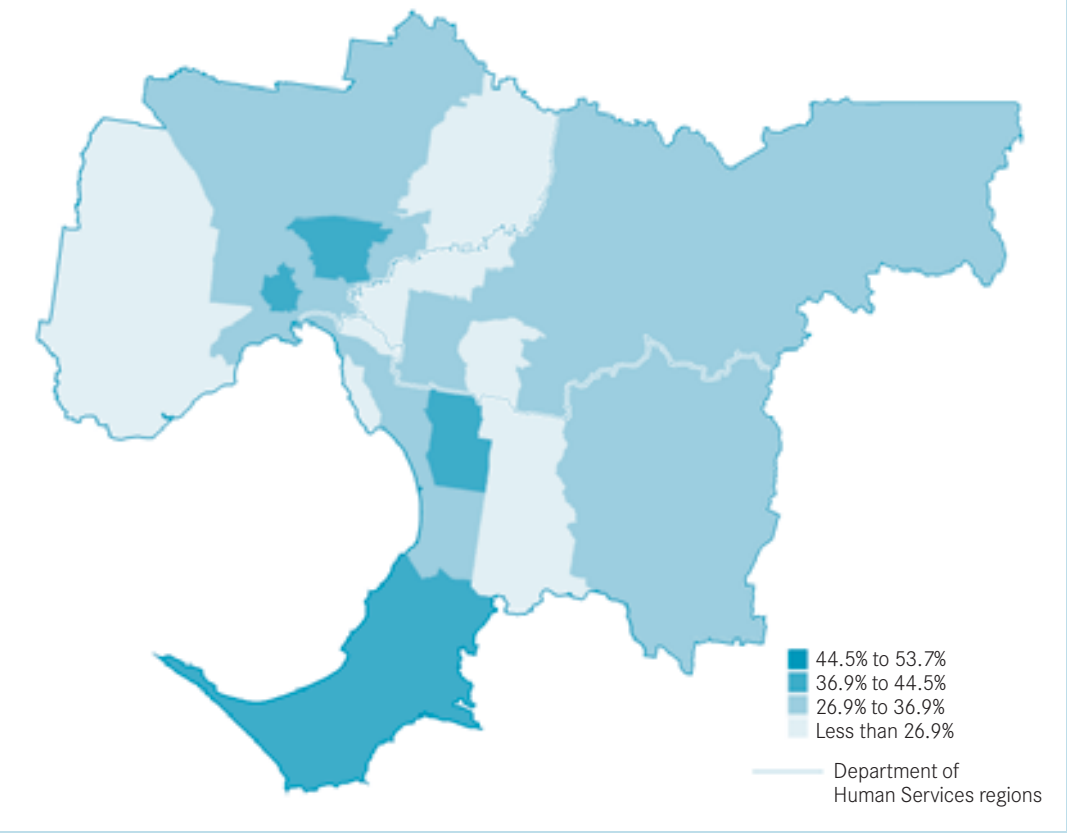
For more information

Australian Bureau of Statistics, www.abs.gov.au

Household income less than $600 per week, Victoria

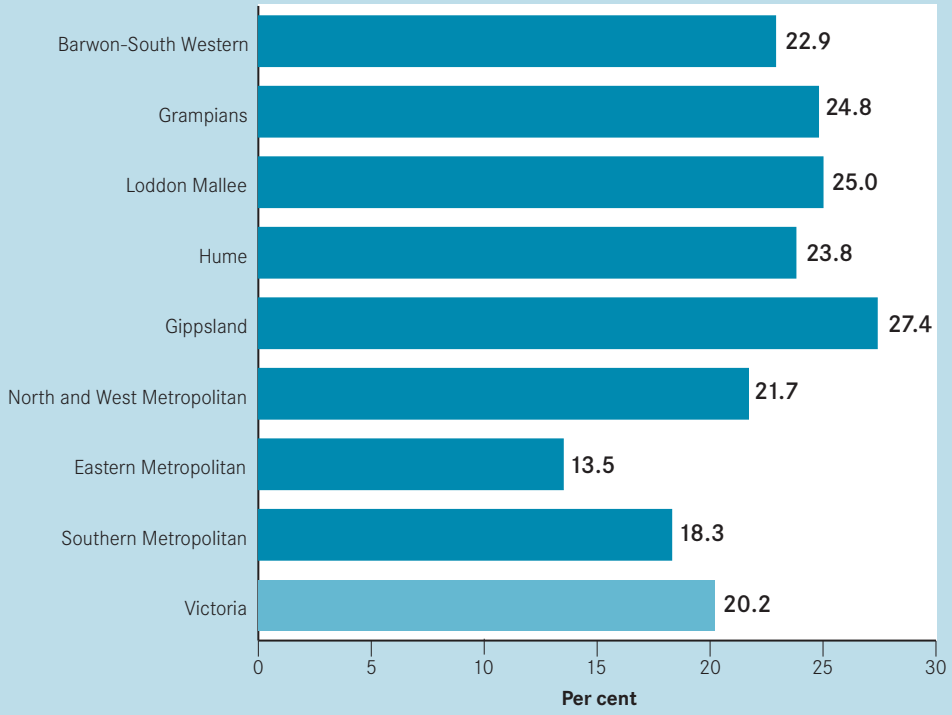


Household income less than $600 per week, metropolitan Melbourne



Children living in low income families

Children in households with income less than $600 per week, by department region, Victoria, 2001



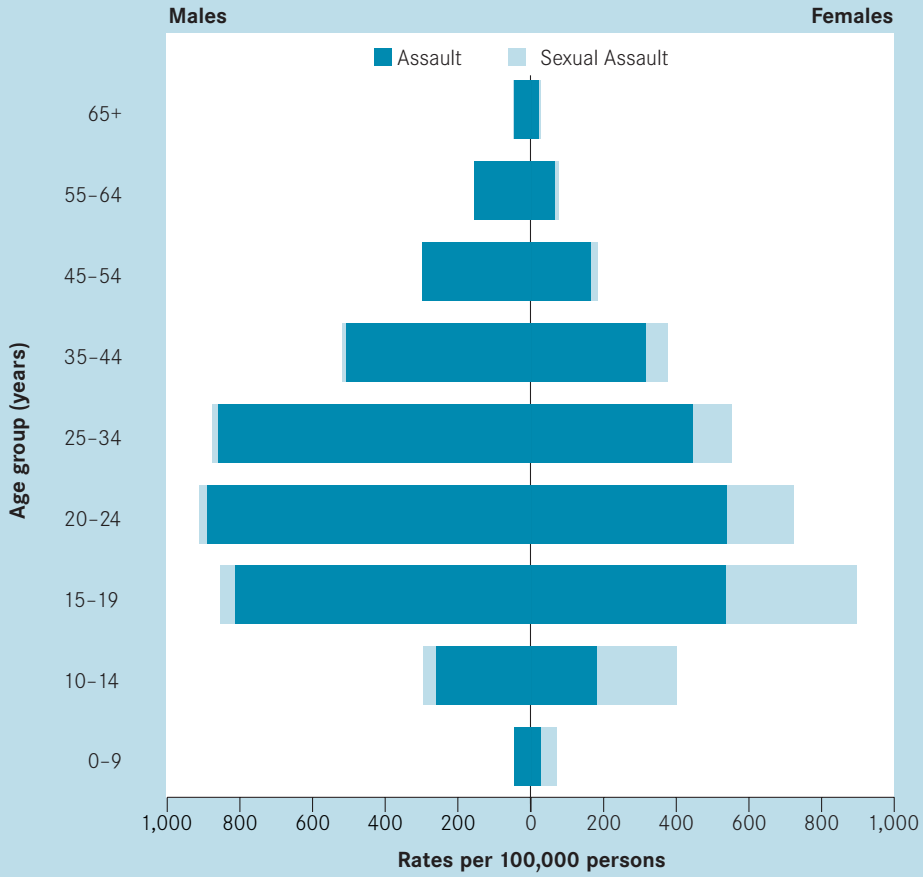
Source: Australian Bureau of Statistics, *Census of population and housing, 2001*.

Income is one of the main determinants of poverty, which is closely linked to poor health. The proportion of children in households with a gross total household income of less than $600 per week provides an indicator of children living in low income families. In Victoria in 2001 the proportion of children who lived in low income families ranged from 13.5 per cent in the Eastern Metropolitan Region to 27.4 per cent in the Gippsland Region. The proportion of children living in households with an income of less than $600 per week was 20.2 per cent across Victoria.

For more information

Australian Bureau of Statistics, 2004, *Australian social trends*, Canberra, www.abs.gov.au

Crime



Note: National crime statistics relate to crimes that have become known to the police and for which details have been recorded in official crime reports. Nationally uniform statistics are complied using the 1999 Australian Bureau of Statistics Australian Standard Offence Classification (ASCO) and standard counting rules. Responsibility for deciding how a crime will be recorded remains with individual police officers. The counting units are recorded criminal incidents. A large number of crimes, including assaults and sexual assaults, are not reported to the police. Sexual assault rates per 100,000 persons are added to assault rates per 100,000 persons.

Source: Australian Bureau of Statistics, *Recorded crime – victims, Australia*, Catalogue no 4510.0, Canberra; and Estimated resident population, 2003.

Safety from physical attack, harassment or other forms of aggression or abuse is central to a person's sense of well-being. Physical injury and psychological trauma from attempted, threatened or actual incidents of violence can have major consequences on the lives of victims, witnesses and their families. Victims of property crime may also suffer psychological harm. In addition, fear of crime may limit willingness to participate in a range of social activities and limit enjoyment of life.

Assault is the direct infliction of force, injury or violence on a person, including face-to-face attempts or threats, where there is reason to believe that the attempt or threat can be immediately enacted. Police recorded 17,140 assaults in Victoria in 2003, a rate of 349 per 100,000 persons. Males had the highest assault victimisation rates across all age groups. The highest assault rates for males and females were for those aged 20–24 years and 15–19 years respectively. Males accounted for 61.3 per cent of all assault victims in 2003. Males in the 20–24 and 25–34 year age groups had assault victimisation rates approximately double the overall male victimisation rate of 434 per 100,000 males, with rates of 890 and 860 victims respectively per 100,000 males in these age groups. The female victimisation rate for assault was 242 victims per 100,000 females and the highest female victimisation rates were in the 20–24 year age group (539 per 100,000 females) and the 15–19 year age group (536 per 100,000 females).

Crime

Victims[a] of assault, by sex and age group of victim

Age group (years)	Number of victims			Rate per 100,000 persons		
	Males	Females	Persons	Males	Females	Persons
0–9	145	81	226	45.1	26.5	36.0
10–14	439	294	740	259.5	181.6	118.0
15–19	1,383	879	2,293	813.6	535.9	365.5
20–24	1,550	923	2,494	889.5	539.1	397.6
25–34	3,105	1,638	4,780	860.4	444.7	762.0
35–44	1,870	1,182	3,081	508.6	314.4	491.2
45–54	972	548	1,538	297.4	163.3	245.2
55–64	382	162	549	154.6	65.5	87.5
65+	131	73	207	45.8	20.1	33.0
Total[b]	**10,509**	**6,037**	**17,140**	**433.6**	**242.1**	**348.6**

Victims[a] of sexual assault, by sex and age group of victim

Age group (years)	Number of victims			Rate per 100,000 persons		
	Males	Females	Persons	Males	Females	Persons
0–9	66	138	205	20.5	45.1	32.7
10–14	59	356	417	34.9	220.0	66.5
15–19	68	593	666	40.0	361.5	106.2
20–24	42	314	357	24.1	183.4	56.9
25–34	56	399	459	15.5	108.3	73.2
35–44	36	238	274	9.8	63.3	43.7
45–54	7	69	77	2.1	20.6	12.3
55–64	1	29	30	0.4	11.7	4.8
65+	1	23	24	0.3	6.3	3.8
Total[b]	**339**	**2,195**	**2,565**	**14.0**	**88.0**	**52.1**

Notes: (a) Victims are individual persons. (b) Includes victims for whom age and/or sex was not specified.
Source: Australian Bureau of Statistics, 2003, *Recorded crime – victims, Australia*, Catalogue no 4510, Canberra; and Estimated resident population, 2003.

Sexual assault is a physical assault of a sexual nature, directed toward another person where that person does not give consent, gives consent as a result of intimidation or fraud, or is deemed legally incapable of giving consent. Police recorded 52 victims of sexual assault per 100,000 persons in 2003. Females represented 85.6 per cent of victims while males represented 8.9 per cent of victims. The sex of the victim was not recorded in 1.2 per cent of sexual assaults. Just over half (50.3 per cent) of all sexual assault victims were females aged under 20 years, while 56.9 per cent of all male victims were aged under 15 years. Almost one in five (23.1 per cent) of the victims of sexual assault were females aged 15–19 years. The victimisation rate for females (88 victims per 100,000 females) was more than six times the male victimisation rate (14 victims per 100,000 males). Males aged 15–19 years had the highest proportion of male victims of sexual assault, accounting for 2.7 per cent of all victims. Males in the 15–19 year age group recorded the highest male victimisation rate (40 victims per 100,000 males), followed by males in the 10–14 year age group (35 victims per 100,000 males).

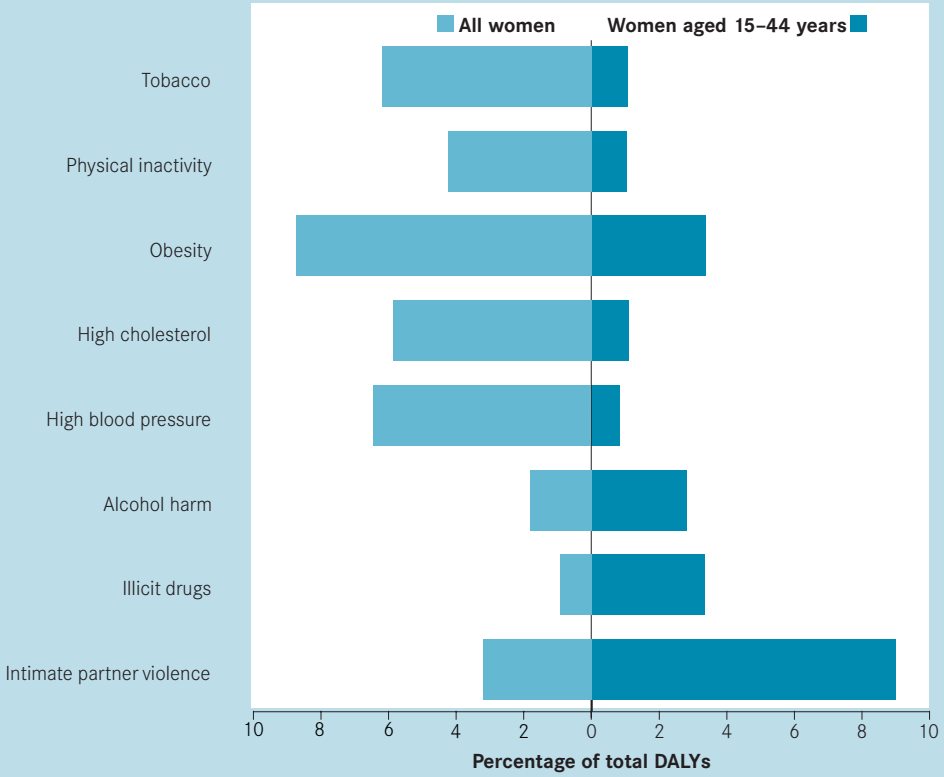
These figures underestimate the true rate of these crimes, because a large number of assaults and sexual assaults are not reported to police.

For more information

Australian Bureau of Statistics, www.abs.gov.au

Intimate partner violence

Burden of disease attributable to the top eight risk factors in Victorian women, 2001



Total DALYs attributable to intimate partner violence (IPV)

	15–44 years	45+ years	All women	% of IPV burden
Femicide	134	91	225	2
Suicide	958	321	1,279	13
Physical injuries	38	14	52	1
Depression	2,377	1,206	3,583	36
Anxiety	2,304	612	2,916	29
Eating disorders	44	0	45	0
Tobacco	178	733	911	9
Alcohol	271	327	598	6
Drug use	229	22	251	2
STD	104	10	114	1
Cancer of the cervix	31	67	98	1
Total	**6,669**	**3,404**	**10,073**	

Note: DALYs = Disability-adjusted life years.
STD = sexually transmitted disease.

Intimate partner violence

Intimate partner violence, sometimes referred to as domestic violence, family violence or relationship violence, refers to violence occurring between people who are, or were formerly, in an intimate relationship. Intimate partner violence can occur on a continuum of economic, psychological and emotional abuse, through to physical and sexual violence. Although men are among the victims of intimate partner violence, evidence suggests that the vast majority of victims are women and that women are more vulnerable to its health impacts. Intimate partner violence occurs across cultural and socio-economic groups.

Intimate partner violence is associated with a range of specific health outcomes including premature death and injury; poor mental health (attempted suicide, self-harming behaviours, depression, anxiety, and other psychiatric disorders); adverse effects on reproductive health (termination of pregnancy, complications of pregnancy, sexually transmitted diseases, abnormal PAP smears, urinary tract infections); and increased levels of risk behaviours and practices (alcohol consumption, tobacco use, illicit and licit drug use).

Burden of disease estimates of the health impact of intimate partner violence indicate that in women under the age of 45 years, this type of violence is responsible for an estimated 9 per cent of the total disease burden. It is less for older women, and 3 per cent of the disease burden in all Victorian women. Intimate partner violence has a greater impact on the health of Victorian women under the age of 45 than any other risk factor. The burden contributed by this form of violence is greater than that for many other risk factors such as obesity, high cholesterol, high blood pressure and illicit drug use. The greatest proportion of the disease burden is associated with mental health problems (over 80 per cent are accounted for by depression, anxiety, eating disorders, tobacco, alcohol and illicit drug use), though suicide is also a significant contributor.

For more information

Victorian Health Promotion Foundation, 2004, *The health costs of violence. Measuring the burden of disease caused by intimate partner violence: a summary of findings,* www.vichealth.vic.gov.au

Department of Human Services, 2001, *Victorian burden of disease study: mortality and morbidity in 2001*, www.health.vic.gov.au/healthstatus/bod/bod_vic.htm

Contact

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Health inequalities

This section presents indicators on key health issues of aboriginal health using the Australian Bureau of Statistics (ABS) and hospital separations data in Victoria. Health-related behaviours and health outcomes (self-reported health, ambulatory care sensitive conditions, avoidable mortality, life expectancy, and selected national health priority areas) are stratified by quintiles of Index of Relative Socioeconomic Disadvantage obtained by the ABS to identify differentials in the health of Victorians by socio-economic factors in Victoria. Differentials in rural health are described using the Accessibility/Remoteness Index of Australia.

Aboriginal and Torres Strait Islander peoples

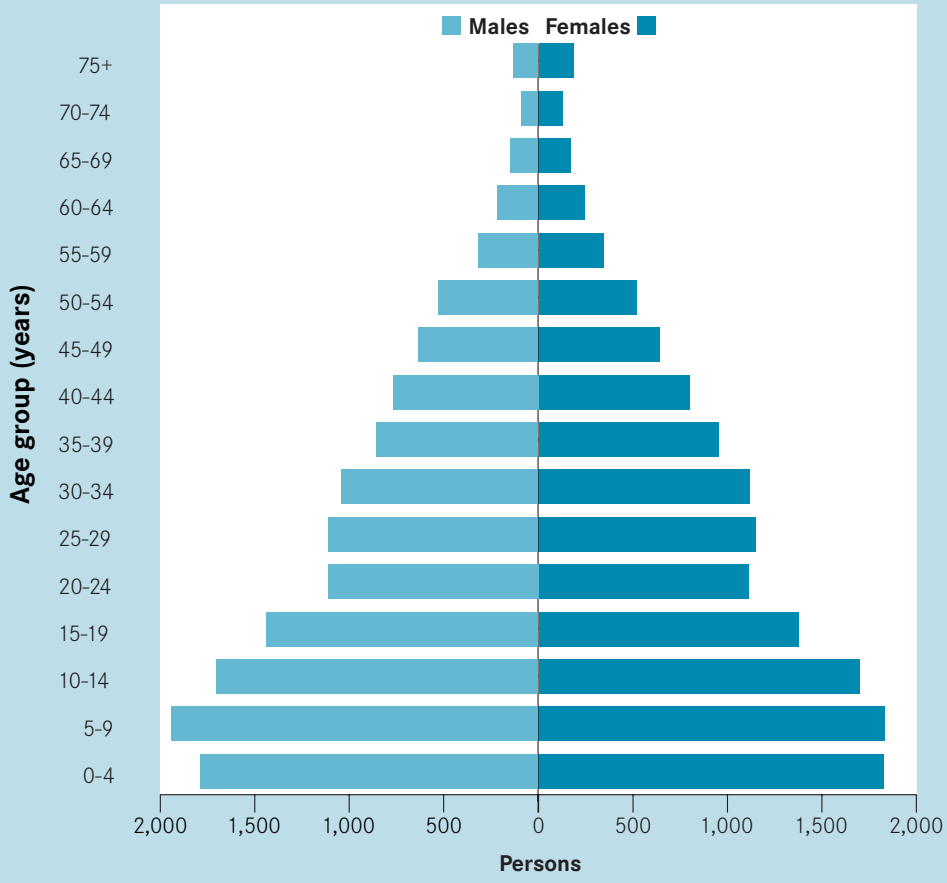
In this chapter

Summary

- Victoria had 6.1 per cent of the total national Indigenous population in 2001.
- The proportion of the Indigenous population aged less than 15 years was 48.7 per cent compared with 26.7 per cent for non-Indigenous persons. Persons aged 65 years or over comprised 3.1 per cent of the Indigenous population and 13.1 per cent of the non-Indigenous population.
- In 2002, the mean equivalised gross household income of the Victorian Indigenous adult population was $423 per week, compared with $657 per week for the non-Indigenous population. Compared with non-Indigenous individuals, Indigenous individuals are almost twice as likely to be in the lowest decile of equivalised gross household income in all areas.
- In 2001–02, 13.6 per cent of births to Indigenous mothers were of low birth weight (less than 2,500 grams), compared with 6.8 per cent for babies born to non-Indigenous mothers.
- The overall perinatal mortality rate for the period 1998–2002 was 21.5 per 1,000 births for babies born to Indigenous mothers, compared with a rate of 9.8 per 1,000 births for babies born to non-Indigenous mothers.
- In 2002, 28.2 per cent of Indigenous people in Victoria reported their health as fair or poor. The proportion of Indigenous Victorians who reported their health status as excellent or very good decreased from 49.4 per cent in 1994 to 41.8 per cent in 2002.
- In 2002, 51.8 per cent of the Indigenous population were current smokers.
- In 2003–04, the hospital admission rates for ACSCs for Indigenous people in Victoria were 161.0 per 1,000 persons, compared with 35.0 per 1,000 for non–Indigenous people.
- Age-adjusted hospitalisation rates among Indigenous people are higher than those for non-Indigenous people for a range of health problems and disease conditions including diabetes, ischaemic heart disease, asthma, and injury and poisoning.

Indigenous population pyramid

Indigenous population pyramid, experimental residential population Victoria, 2001



Note: Indigenous persons are Census respondents who identified themselves as being of Australian Aboriginal and/or Torres Strait Islander origin. Experimental estimates of the resident Indigenous population are based on 2001 Census usual residence counts and make allowance for instances in which Indigenous status is unknown, and for net underenumeration. Estimates are considered experimental in that the standard approach to population estimation is not possible because satisfactory data on births, deaths and migration are not generally available, and because of intercensal volatility in Census counts of the Indigenous population.

Source: Australian Bureau of Statistics, *Census 2001.*

The experimental estimate of the resident Indigenous population of Victoria was 27,928, or 0.6 per cent of the total Victorian population at 30 June 2001. Nationally, the Indigenous population was 458,520, or 2.4 per cent of the total Australian population. Victoria has 6.1 per cent of the total Indigenous population.

The shape of the population pyramid reflects the younger age structure of the Indigenous population compared with the non-Indigenous population. The proportion of the Indigenous population aged less than 15 years was 48.7 per cent compared with 26.7 per cent for non-Indigenous persons. Persons aged 65 years or over comprised 3.1 per cent of the Indigenous population and 13.1 per cent of the non-Indigenous population. These differences reflect the higher rates of fertility and higher rates of mortality at younger ages among Indigenous persons.

Indigenous (experimental) resident population, Victoria, 2001

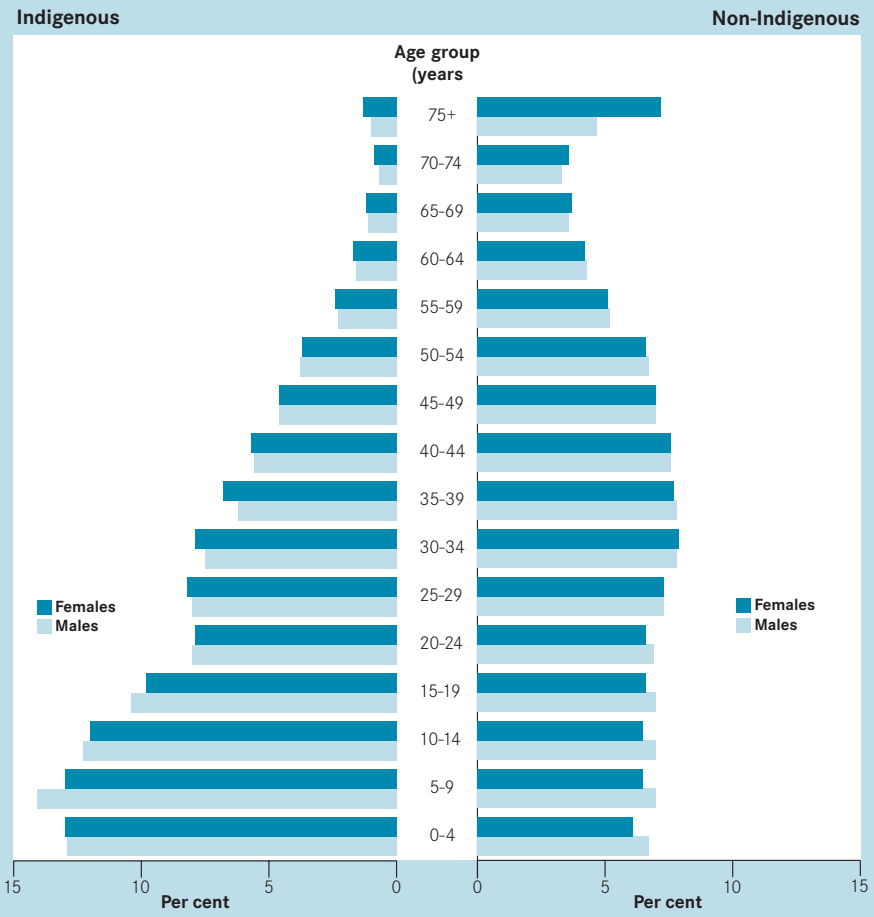
Age group (years)	Males	Females	Persons
0–4	1,786	1,830	3,616
5–9	1,942	1,836	3,778
10–14	1,701	1,699	3,400
15–19	1,439	1,376	2,815
20–24	1,112	1,111	2,223
25–29	1,111	1,150	2,261
30–34	1,040	1,121	2,161
35–39	857	953	1,810
40–44	768	801	1,569
45–49	634	642	1,276
50–54	529	518	1,047
55–59	315	344	659
60–64	216	245	461
65–69	147	170	317
70–74	90	128	218
75+	132	185	317
Total	**13,819**	**14,109**	**27,928**

For more information

Australian Bureau of Statistics, *Population distribution Aboriginal and Torres Strait Islander Australians 2001*, ABS Catalogue no. 4705.0, www.abs.gov.au

Indigenous and non-Indigenous populations

Age and sex distribution of the population, by Indigenous status, Victoria, 2001



Note: Indigenous persons are Census respondents who identified themselves as being of Australian Aboriginal and/or Torres Strait Islander origin. Estimates are considered to be experimental in that the standard approach to population estimation is not possible because data on births, deaths and migration are not generally available, and because of inter-census volatility in Census counts of the Indigenous population.

Source: Australian Bureau of Statistics and Australian Institute of Health and Welfare, 2003, *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples*, ABS Catalogue no 4704.0, Canberra.

The age-sex population pyramids for Indigenous and non-Indigenous persons in Victoria are very different. The Indigenous population was younger, with around 39 per cent of the population aged under 15 years in 2001, compared with 20 per cent of the non-Indigenous population. The number of persons in a five-year age group (as a proportion of all persons) declined after age nine years for the Indigenous population, whereas for non-Indigenous persons, the decline occurs after age 34 years.

The shape of the population pyramids for the Indigenous and non-Indigenous populations also reflects the higher death rates and lower life expectancy of males compared with females. The ratios of females to males in children aged less than 15 years were 0.99 and 0.95 in the Indigenous and non-Indigenous populations respectively. In those aged 65 years and over, the female to male ratio was 1.31 in the Indigenous population and 1.29 in the non-Indigenous population.

For more information

Australian Bureau of Statistics, www.abs.gov.au

Geographical distribution of Indigenous population

Persons identifying themselves as being of Aboriginal or Torres Strait Islander origin, by region, Victoria, 2001

Region	Number	Per cent
Barwon-South Western	2,465	0.72
Grampians	1,679	0.81
Loddon Mallee	4,252	1.45
Hume	3,166	1.26
Gippsland	2,972	1.24
North and West Metropolitan	6,841	0.49
Eastern Metropolitan	2,459	0.24
Southern Metropolitan	4,094	0.36
Rural/regional Victoria	*13,394*	*1.09*
Metropolitan Melbourne	*14,534*	*0.38*
Victoria	**27,928**	**0.57**

Source: Australian Bureau of Statistics, *Census of population and housing, 2001.*

Among the Department of Human Services regions, the proportion of the population who identified themselves as being of Aboriginal and/or Torres Strait Islander origin ranged from 1.45 per cent in the Loddon Mallee Region to 0.24 per cent in the Eastern Metropolitan Region.

Estimated resident population, by Indigenous status and section of state, Victoria, 2001

	Indigenous persons		Non-Indigenous persons		Total	
Section of state	Number	Per cent	Number	Per cent	Number	Per cent
Major urban	12,978	46.6	3,382,199	70.8	3,395,177	70.7
Other urban	11,162	40.1	871,279	18.2	882,441	18.4
Bounded locality	765	2.7	92,636	1.9	93,401	1.9
Rural balance	2,941	10.6	430,766	9.0	433,707	9.0
Victoria	**27,928**	**100.0**	**4,776,880**	**100.0**	**4,804,726**	**100.0**

Note: Indigenous resident population estimates are experimental. The total includes a migratory population component. Total for Victoria may not equal total for sections of the state due to rounding of experimental estimates.

Source: Australian Bureau of Statistics, *Census of population and housing, 2001.*

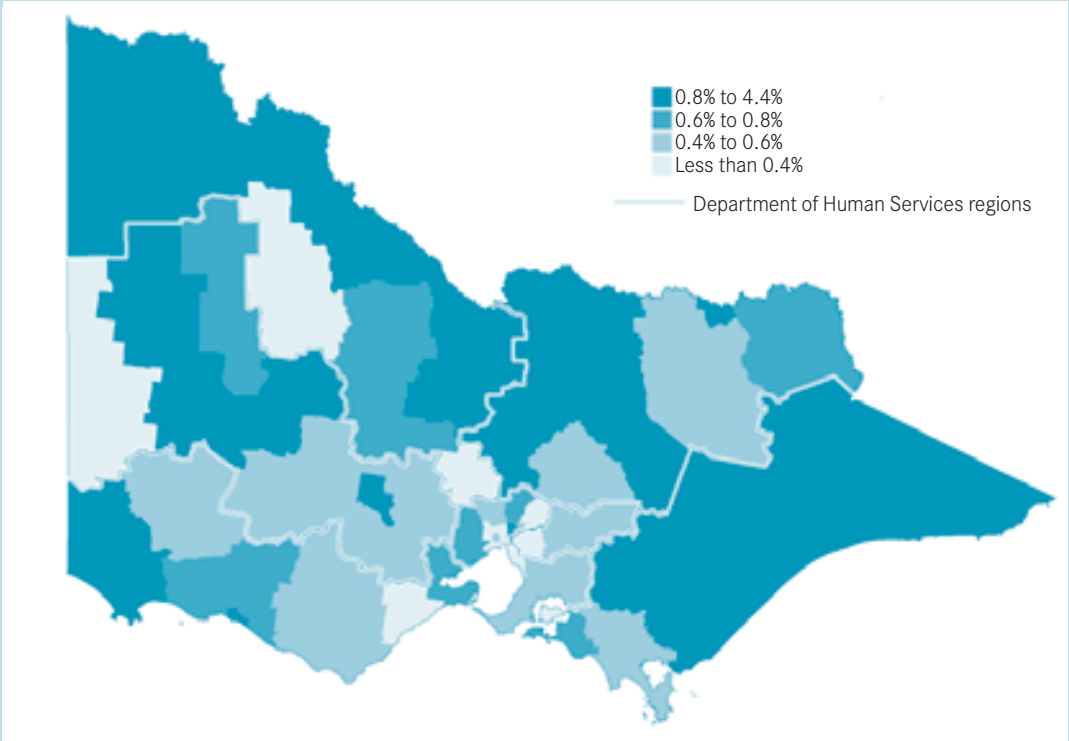
Less than 50 per cent (46.6 per cent) of Indigenous persons in Victoria resided in major urban areas in 2001, compared with more than 70 per cent of non-Indigenous persons. The proportion of Indigenous persons residing in other urban areas (40.1 per cent) was more than twice that of the non-Indigenous population (18.2 per cent).

For more information

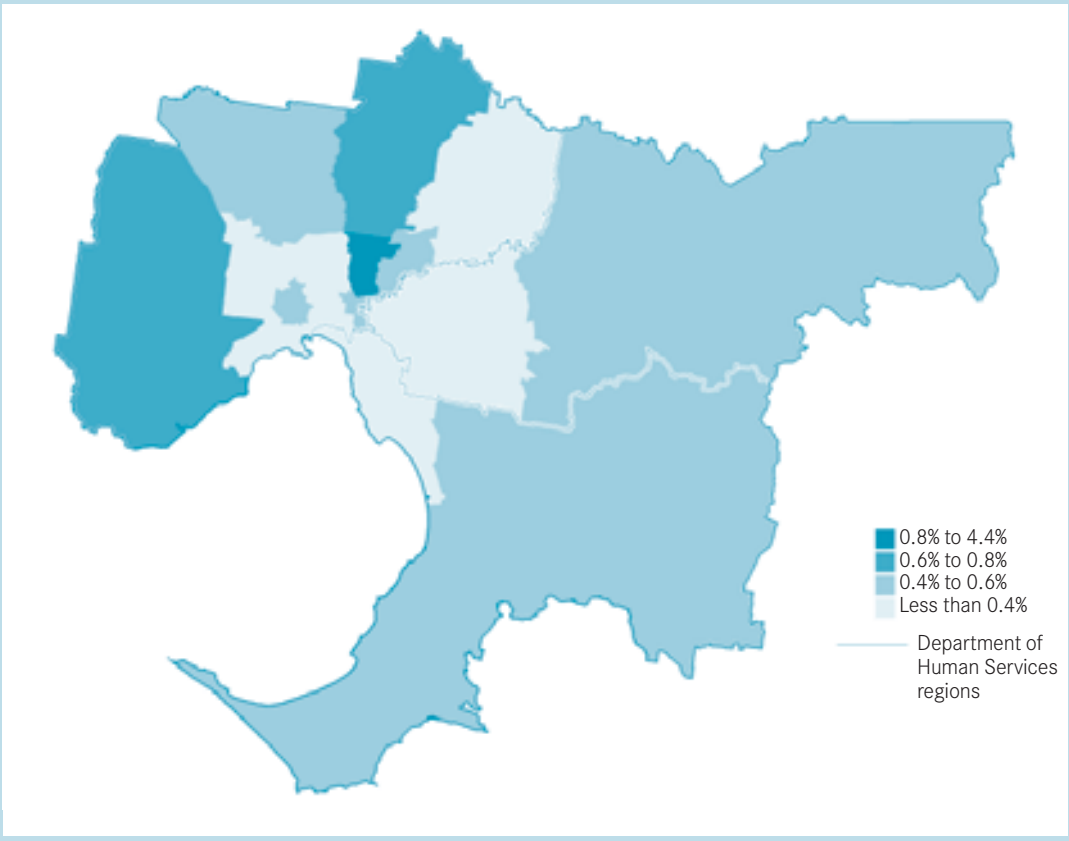
Australian Bureau of Statistics, www.abs.gov.au

Geographical distribution of Indigenous population by local government area

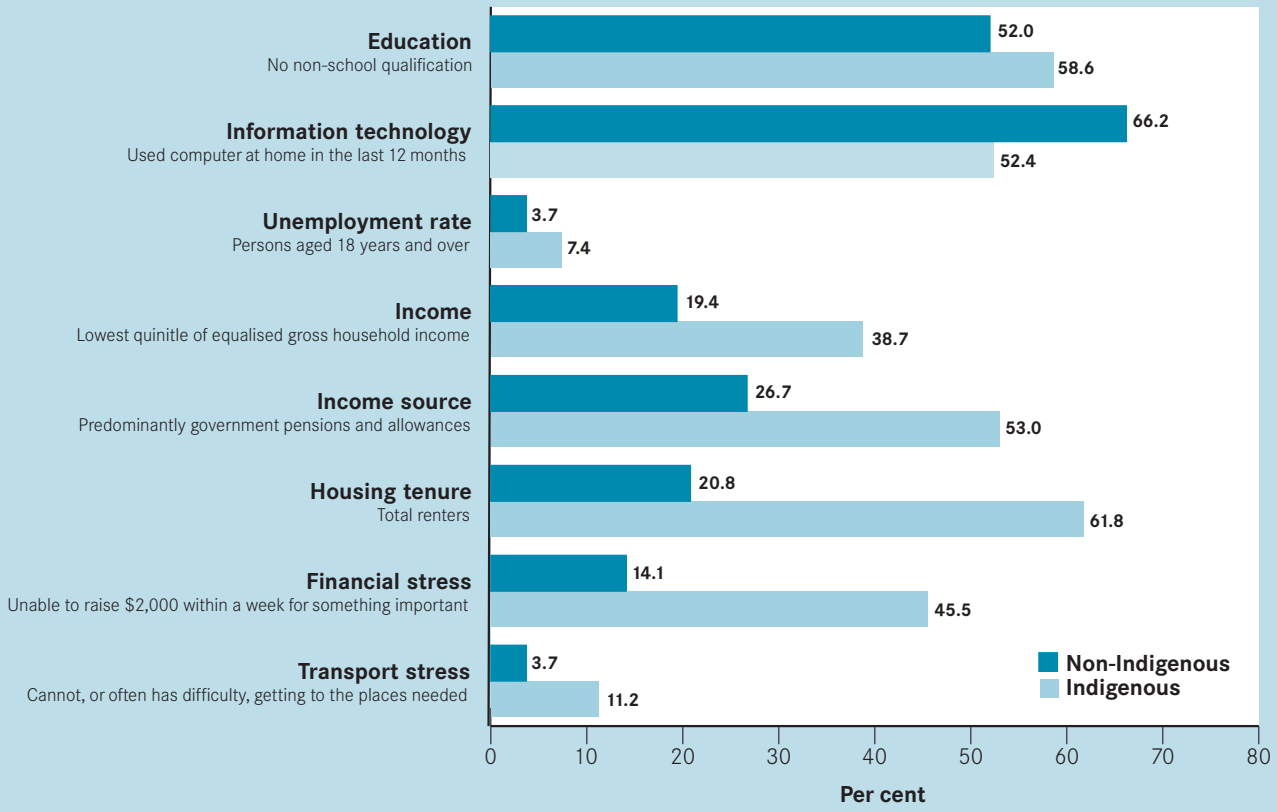
Indigenous population as a percentage of the total population, Victoria, 2001



Indigenous population as a percentage of the total population, metropolitan Melbourne, 2001



Socio-economic factors by Indigenous status



Note: Employed includes persons engaged in the Community Development Employment Program. Equivalised household income is based on national quantile boundaries from the ABS 2002 general social survey. Data for information technology and unemployment rate are age-standardised. Data for remaining items are not age-standardised.

Source: Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social survey (NATSISS) 2002*, Catalogue no 4714.2.55.001

Aboriginal and Torres Strait Islander peoples are the most disadvantaged group in Australia, as measured by a range of socio-economic indicators.

The mean equivalised gross household income (that is, after adjusting for household size and composition) of the Indigenous population aged 18 years or over in Victoria in 2002 was $423 per week, compared with $657 per week for the non-Indigenous population. This disparity can be explained by a number of socio-economic factors affecting Indigenous people in Victoria, including lower rates of post-secondary qualifications (52.0 per cent versus 58.6 per cent), higher rates of unemployment (7.4 per cent versus 3.7 per cent), employment in lower income occupations, and larger household sizes than non-Indigenous households. Government pensions and allowances were almost twice as likely to be the predominant source of income for Indigenous people (53.0 per cent) compared with non-Indigenous people (26.7 per cent). Indigenous individuals were more than three times as likely to report that they would be unable to raise $2,000 within a week for something important (45.5 per cent) compared with non-Indigenous people (14.1 per cent).

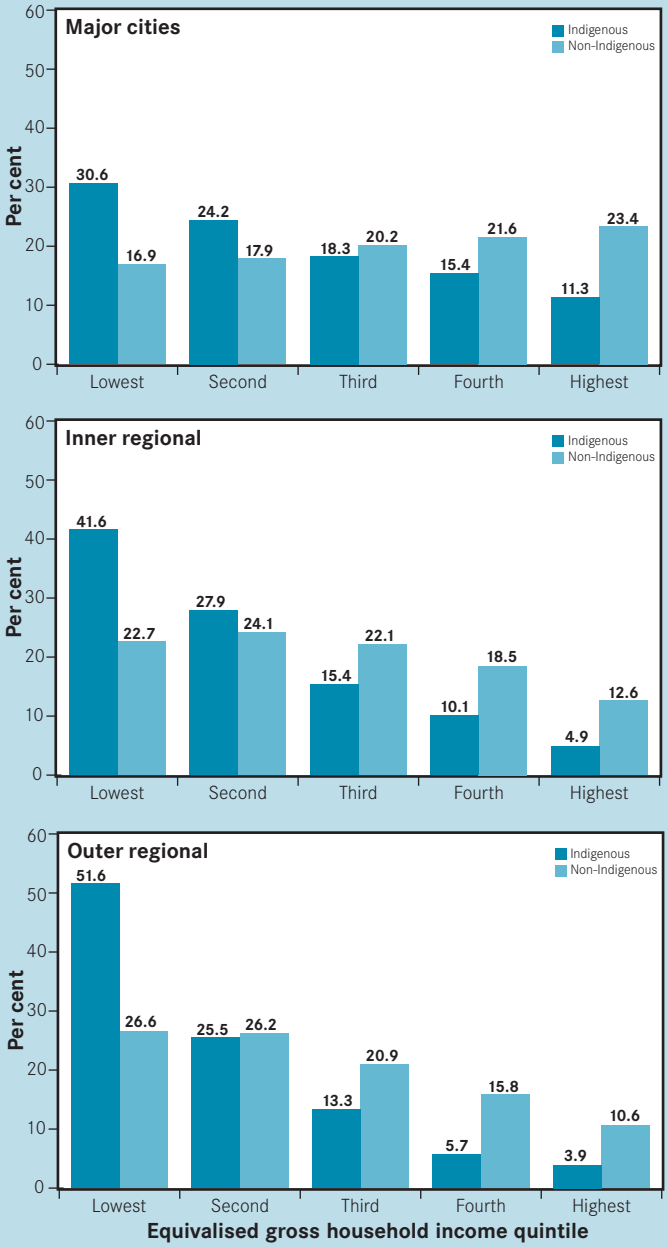
Indigenous households were almost three times more likely to live in rented homes (61.8 per cent versus 20.8 per cent), and a higher proportion of Indigenous individuals reported that they had difficulty with transport access compared with non-Indigenous people (11.2 per cent versus 3.7 per cent). Indigenous adults were less likely to use a computer at home compared with their non-Indigenous counterparts (52.4 per cent compared with 66.2 per cent).

For more information

Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social survey* (NATSISS) 2002, Catalogue no. 4714.2.55.001, www.abs.gov.au

Equivalised gross household income by Indigenous status

Equivalised gross household income for persons in occupied private dwellings by income quintile, by Indigenous status and area of state, Victoria, 2001



Note: Equivalised gross household income is calculated for residents of occupied private dwellings where all incomes were fully stated. Children under 15 years of age who were temporarily absent on Census night have been included in the calculation of mean equivalised gross household income per week. Visitors to the household on Census night are excluded from this calculation.

Source: Australian Bureau of Statistics, *Census of population and housing, 2001*.

There are differences within Victoria in 2001 in the degree of economic disadvantage experienced by Indigenous and non-Indigenous residents of occupied private dwellings, as measured by equivalised gross household income. For Indigenous and non-Indigenous people alike, the proportion in the lowest quintile of equivalised gross household income increased with the degree of remoteness. Compared with non-Indigenous individuals, Indigenous individuals are almost twice as likely to be in the lowest decile of equivalised gross household income in major cities (30.6 per cent versus 16.9 per cent), inner regional areas (41.6 per cent versus 22.7 per cent) and outer regional areas (51.6 per cent versus 26.6 per cent).

For more information

Australian Bureau of Statistics, *Population characteristics, Aboriginal and Torres Strait Islander Australians*, Catalogue no 4713.0, www.abs.gov.au

Low birth weight and very low birth weight births by Indigenous status

Birth weight of Indigenous and non-Indigenous infants, pooled data, Victoria, 2001–02

Birth weight (grams)	Indigenous Per cent	Non-Indigenous Per cent
< 1,500	3.0	1.5
1,500–2,499	10.6	5.3
2,500–4,499	84.6	91.5
4500+	1.8	1.8

Source: Department of Human Services, *Births in Victoria 2001–2002,* Victorian Perinatal Data Collection Unit.

Indigenous women accounted for 0.7 per cent of all births in Victoria in 2001 and 2002, with 419 and 421 births respectively. Because the perinatal data collection in Victoria collects information on the Indigenous status of mothers only and does not ask the Indigenous status of the babies, it underestimates the total number of Indigenous babies born (Koori Human Services Unit, 2005). Births to Indigenous mothers represent only 60 per cent of Indigenous births in Victoria. For 15 per cent of these births, both parents are Indigenous; in 45 per cent of these births, only the mothers are Indigenous; and for the remaining 40 per cent, only the fathers are Indigenous. Births for which the mother's Indigenous status is not stated are excluded.

Babies born to Indigenous mothers had a higher chance of having a birth weight of less than 2,500 grams, and in 2001–02, 13.6 per cent of births to Indigenous mothers were of low birth weight (that is, less than 2,500 grams), compared with 6.8 per cent for babies born to non-Indigenous mothers.

For more information

Department of Human Services (Perinatal Data Collection Unit, Public Health), 2003, *Births in Victoria 2001–2002*, Melbourne, www.health.vic.gov.au/perinatal

Department of Human Services (Koori Human Services Unit), *Koori health counts! Information from the reports of Koori hospital liaison officers*, www.health.vic.gov.au/koori

Contact

Mary–Ann Davey, Epidemiologist, Consultative Council on Obstetric and Paediatric Mortality and Morbidity, and Perinatal Data Collection Unit, Department of Human Services, telephone **61 3 9616 2728**, **Mary-Ann.Davey@dhs.vic.gov.au**

Mary Sullivan, Koori Human Services Unit, Department of Human Services, telephone **61 3 9616 7032**, **Mary.Sullivan@dhs.vic.gov.au**

Perinatal mortality by Indigenous status

Mortality rates for babies born to Indigenous and non-Indigenous mothers, pooled data, Victoria, 2001–02

	Rate per 1,000 births	
	Indigenous mother	Non-Indigenous mother
Stillbirths	15.5	6.4
Neonatal deaths	6.0	3.5
Perinatal deaths	21.5	9.8

Mortality rates for babies born to Indigenous and non-Indigenous mothers, pooled data, Victoria, 1998–02

	Rate per 1,000 births	
	Indigenous mother	Non-Indigenous mother
Stillbirths	12.7	6.6
Neonatal deaths	7.5	3.4
Perinatal deaths	20.2	10.0

Note: Only births to women who identified themselves as Aboriginal or Torres Strait Islander on the perinatal morbidity statistics form are included. The indigenous status of the baby is not asked. Births for which the mother's Indigenous status is not stated are excluded.
Source: Department of Human Services, 2003, *Births in Victoria 2001–2002,* Victorian Perinatal Data Collection Unit; Department of Human Services, 2003, *Koori health counts! Koori births in Victoria in 1991–2000*, Koori Human Services Unit.

Perinatal deaths include stillbirths and neonatal deaths (deaths within 28 days of birth). Due to the small numbers involved, data from 1998–2002 were combined to obtain a more stable perinatal mortality rate for babies born to Indigenous mothers.

The overall perinatal mortality rate in Victoria for the period 1998–2002 was 20.2 per 1,000 births for babies born to Indigenous mothers, compared with a rate of 10.0 per 1,000 births for babies born to non-Indigenous mothers.

For more information

Department of Human Services (Perinatal Data Collection Unit, Public Health), 2003, *Births in Victoria 2001–2002*, Melbourne, www.health.vic.gov.au/perinatal

Department of Human Services (Koori Human Services Unit), *Koori health counts! Information from the reports of Koori hospital liaison officers*, www.health.vic.gov.au/koori

Contact

Mary–Ann Davey, Epidemiologist, Consultative Council on Obstetric and Paediatric Mortality and Morbidity, and Perinatal Data Collection Unit, Department of Human Services, telephone **61 3 9616 2728**, **Mary-Ann.Davey@dhs.vic.gov.au**

Mary Sullivan, Koori Human Services Unit, Department of Human Services, telephone **61 3 9616 7032**, **Mary.Sullivan@dhs.vic.gov.au**

Self-assessed health status

Self-assessed health of Indigenous persons aged 15 years or over, by sex, Victoria, 2002

	Health status	Per cent	RSE (per cent)
Males	Excellent/very good	47.6	7.5
	Good	26.7	11.8
	Fair/poor	25.6	11.7
Females	Excellent/very good	36.4	8.5
	Good	33.0	9.1
	Fair/poor	30.7	8.3
Persons	Excellent/very good	41.8	5.4
	Good	29.9	7.0
	Fair/poor	28.2	7.4

Note: RSE = relative standard error. Proportions reported are age-standardised.
Source: Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social survey 2002*, Catalogue no 4714.2.55.001.

Self-assessed health status provides an indicator of overall health, based on an individual's perception of his or her own health. The measure depends on an individual's awareness and expectation of their health, and may be influenced by access to health services and health information (Cunningham et al., 1997).

Of Indigenous people in Victoria, 28.2 per cent reported their health as fair or poor in 2002. More than a quarter (25.6 per cent) of Indigenous males aged 15 years or over reported that their health status was fair or poor, compared with 30.7 per cent of Indigenous females.

Reference

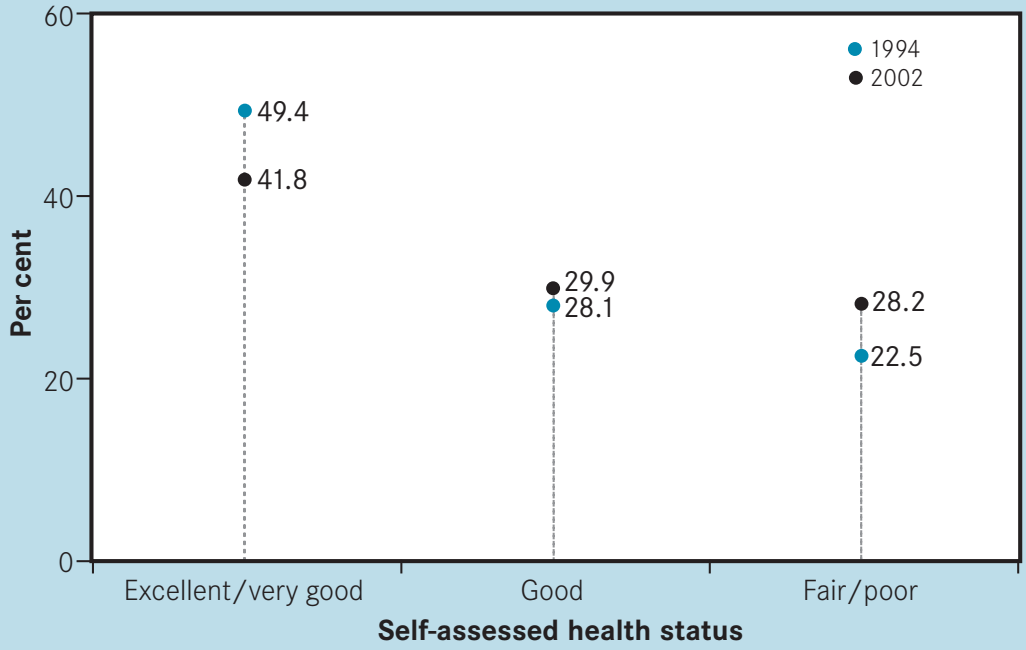
Cunningham, J., Sibthorpe, B., and Anderson, I., 1997, *Self-assessed health status, Indigenous Australians, 1994*, Occasional paper no. 4707.0, Australian Bureau of Statistics, Canberra.

For more information

Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social survey 2002*, Catalogue no 4714.2.55.001, www.abs.gov.au

Self-assessed health status (1994 and 2002)

Self-assessed health status of Indigenous persons aged 15 years or over, Victoria, 1994 and 2002



Source: Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social surveys*, 1994 and 2002, Catalogue no 4714.2.55.001.

The proportion of the Indigenous population in Victoria who reported that their health status was fair or poor increased from 22.5 per cent in 1994 to 28.2 per cent in 2002. Conversely, the proportion of Indigenous Victorians who reported their health status as excellent or very good decreased over the same period, from 49.4 per cent to 41.8 per cent.

For more information

Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social survey 2002*, Catalogue no 4714.2.55.001, www.abs.gov.au

Health-related behaviours and lifestyle

Health-related behaviours of Indigenous persons aged 15 years or over, Victoria, 2002

Risk behaviour/characteristics	Per cent	RSE (Per cent)
Smoker status		
Current daily smoker	51.8	4.8
Occasional smoker	2.2	36.7
Ex-smoker	20.1	10.4
Never smoked	26.0	8.0
Alcohol consumption level in last 12 months		
Low risk	47.9	5.0
Risky	11.5	12.2
High risk	5.4	18.2
Did not consume alcohol in last 12 months	24.8	8.1
Type of substances used in last 12 months		
Used substances in last 12 months		
Analgesics and sedatives for non-medical use	8.5	16.4
Amphetamines or speed	9.2	14.5
Marijuana, hashish or cannabis resin	21.9	9.0
Kava	1.5	38.5
Total used substances in last 12 months	*29.0*	*7.4*
Has used substances, but not in last 12 months	18.6	9.2
Has never used substances	43.6	4.9

Note: Average daily consumption of alcohol is derived from reported consumption in the seven days prior to interview. The alcohol consumption risk levels are defined separately for males and females. For males the risk levels for consumption per day are: less than 50 mls (low risk); 50–75 mls (medium risk); and greater than 75 mls (high risk). For females, the risk levels for consumption per day are: less than 25 mls (low risk); 25–50 mls (medium risk); and greater than 50 mls (high risk). Risk levels are based on regular consumption levels of alcohol. Data for substances used in the last 12 months are available only for persons in non-remote areas. Respondents may indicate more than one response category in respect of type of substances used. Analgesics and sedatives for non-medical use includes painkillers, tranquilisers and sleeping pills. Total substances used includes heroin, cocaine, hallucinogens, designer drugs, petrol and other inhalants.
RSE = relative standard errror.
Source: Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social survey 2002,* Catalogue no 4714.2.55.001.

Smoking is the main cause, or a significant cause, of many diseases including cancer and cardiovascular disease, and is one of the leading causes of death. Of the Indigenous people in Victoria in 2002, 51.8 per cent were current smokers. Among Indigenous males aged 15 years or over, almost one-half (48.1 per cent) were current smokers. More than one-half of Indigenous females aged 15 years or over were current smokers (55.1 per cent).

Excessive alcohol consumption over time increases the risk of chronic ill health and premature death (NHMRC, 2001). Individuals who consume alcohol can be classified to have a health risk level (low, risky or high) based on their estimated average daily consumption of alcohol during the previous week. Almost three–quarters (72.7 per cent) of the Indigenous population either drank no alcohol in the last 12 months (24.8 per cent) or drank at a level that posed no risk to health (47.9 per cent). More than one in ten (11.5 per cent) Indigenous persons drank alcohol at levels that are risky in the sense that the risk of harm exceeds possible benefits. A further 5.4 per cent of Indigenous persons consumed alcohol at high risk levels, where there is substantial risk of serious harm.

Almost 30 per cent of Indigenous people had used one or more substances in the last 12 months. More than 20 per cent had used marijuana, hashish or cannabis resin in this period, and approaching 10 per cent had used analgesics or sedatives in non-medical ways (8.5 per cent) or speed and amphetamines (9.2 per cent).

Reference

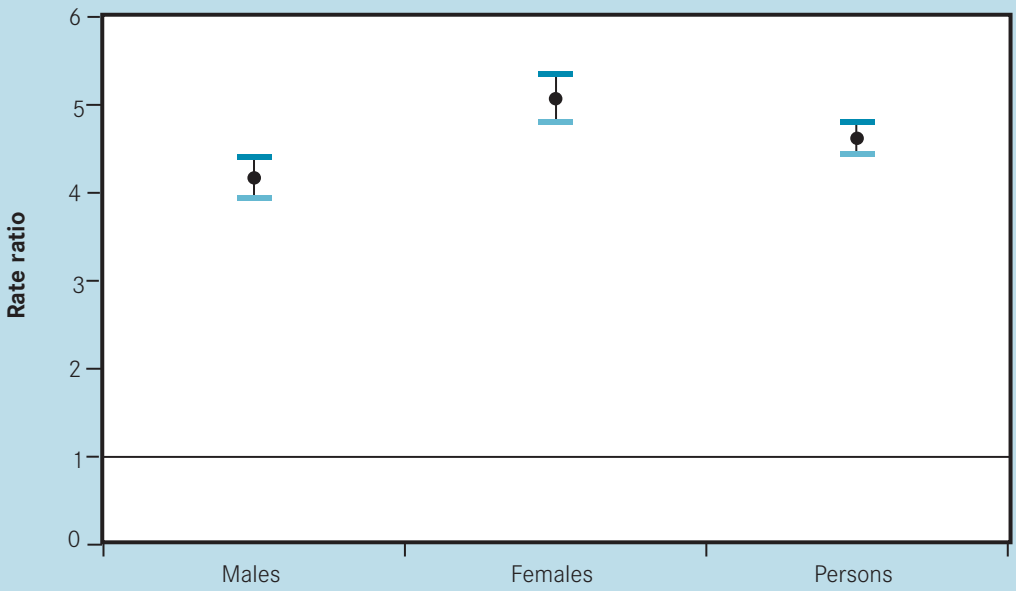
National Health and Medical Research Council, 2001, *Australian alcohol guidelines: health risks and benefits*, Canberra.

For more information

Australian Bureau of Statistics, *National Aboriginal and Torres Strait Islander social survey 2002*, Catalogue no 4714.2.55.001, www.abs.gov.au

Ambulatory care sensitive conditions admissions

Total ACSCs admission rate ratios for Indigenous persons (non-Indigenous=1), by sex, Victoria, 2003–04



Total ACSCs admissions by Indigenous status, Victoria, 2003–04

	Number of admissions	Rate per 1,000 admissions	Lower 95% CI	Upper 95% CI	Total bed days	Average bed days
Indigenous						
Males	1,388	177.92	168.80	187.53	2,870	2.07
Females	1,209	145.86	137.87	154.32	2,963	2.45
Persons	2,597	161.70	155.59	168.04	5,833	2.25
Non-Indigenous						
Males	87,642	35.06	34.83	35.30	445,601	5.08
Females	88,275	34.98	34.75	35.21	439,900	4.98
Persons	175,917	35.02	34.86	35.18	885,501	5.03

Note: CI = confidence interval. Admission rates are age-standardised using experimental estimates of the resident Indigenous population based on the 2001 Census.
Source: Department of Human Services, Victoria Admitted Episodes Dataset, 2003–04.

Ambulatory care sensitive conditions (ACSCs) are those for which hospitalisation is thought to be avoidable if preventive care and early disease management are applied, usually in an ambulatory setting. The ACSCs admission rate ratios for Indigenous males and females were 5.07 (4.81–5.35) and 4.17 (3.94–4.41) respectively, significantly above their non-Indigenous counterparts.

The admission rates for total ACSCs for Indigenous people in Victoria in 2003–04 was 161.0 per 1,000 persons compared with 35.02 per 1,000 for non-Indigenous people. Total ACSCs admissions for Indigenous persons accounted for 5,833 bed days, with an average length of stay of 2.3 bed days.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), 2002, *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

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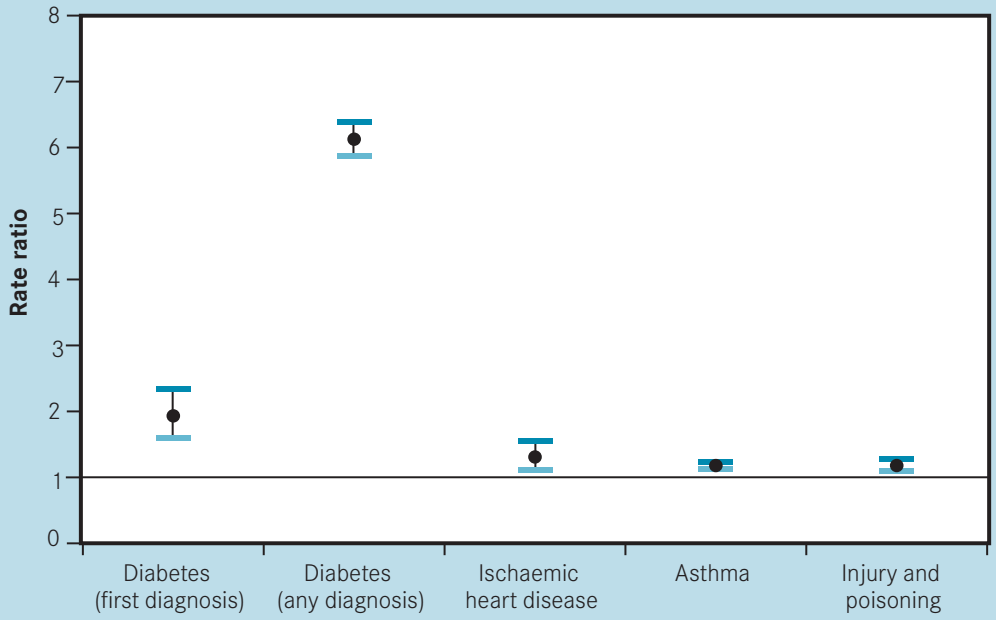
Selected national health priority area conditions

Selected national health priority area admission rate ratios for Indigenous persons (non-Indigenous=1), Victoria, 2003–04



Note: Admission rates are age-standardised using experimental estimates of the resident Indigenous population based on the 2001 Census. Some hospital separations recorded as non-Indigenous are for Indigenous persons.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, 2003–04.

While Indigenous status is likely to be under-reported in the Victorian hospital data collection, in 2003–04, age-adjusted hospitalisation rates among Indigenous people were higher than those for non-Indigenous people for a range of health problems and disease conditions.

The admission rate ratio for a primary diagnosis of diabetes mellitus among Indigenous people was 1.93 (1.60–2.34), significantly above that for non-Indigenous people. The admission rate ratio for any diagnosis of diabetes was 6.13 (5.87–6.39) for Indigenous people and for ischaemic heart disease, the admission rate ratio is 1.31 (1.10–1.55). The admission rate ratios for asthma and injury and poisoning are also significantly above those for non-Indigenous individuals, at 1.18 (1.13–1.23) and 1.18 (1.09–1.27) respectively.

The Victorian Government's social policy action plan, *A Fairer Victoria*, aims to act in partnership with Indigenous communities to break the cycle of disadvantage that leads to low rates of school achievement and high rates of unemployment, imprisonment and illness.

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Socio-economic determinants of health

In this chapter

Summary

- Between 1996 and 2003, the life expectancy at birth for males born in the most advantaged population quintile improved from 78.0 to 80.3 years, while for males born in the least advantaged population quintile, it rose from 74.7 to 77.8 years.
- Over the same period, the life expectancy at birth for females born in the most advantaged quintile has improved from 83.0 to 84.9 years, while for females born in the least advantaged quintile, it rose from 80.7 to 83.4 years.
- The proportion of males and females who assessed their health status as excellent or very good in 2004 was similar between the least and most disadvantaged quintiles.
- Hospital admission rates for total ACSCs were higher (35.1 per 1,000 persons) in the most disadvantaged quintile compared with the least disadvantaged (25.6 per 1,000 persons) in 2003–04.
- The rates of avoidable mortality were higher in the most disadvantaged quintile compared with the least disadvantaged (1997–2001).
- Hospital admission rates for diabetes on first diagnosis were 67 per cent higher in the most disadvantaged quintile compared with the least disadvantaged in 2003–04. In 2003–04, hospital admission rates for ischaemic heart disease, stroke, asthma, were respectively 33 per cent, 14 per cent and 47 per cent higher in the most disadvantaged quintile compared with the least disadvantaged.
- In 2004, 21.3 per cent of males living in relatively less disadvantaged areas were current smokers, compared with 29.7 per cent of those living in those areas scoring in the most disadvantaged areas.
- A significantly lower proportion of females living in the most advantaged areas reported that they consumed more than four drinks per occasion at least yearly, compared with those living in the most disadvantaged areas (33.8 per cent and 45.4 per cent respectively). No differences were observed among males.
- The proportion of males and females who reported that they consumed the recommended five or more serves of vegetables per day was similar in the highest and lowest quintiles in 2004.
- In 2004, there was little variation in the proportion of males and females who engaged in sufficient regular physical activity between the most and the least disadvantaged areas.
- A significantly greater proportion of females living in the most disadvantaged areas were classified as overweight or obese compared with females in the least disadvantaged areas. The proportion of males classified as overweight or obese was similar for both levels of disadvantage.

Index of Relative Socio-Economic Disadvantage

There is unequivocal evidence that factors such as income, socio-economic status and educational attainment are strongly associated with inequalities in health. Although the ways in which social and economic factors influence health are not yet well understood, there is increasing interest in identifying opportunities for the health sector to reduce preventable inequalities. This chapter examines trends in area-based socio-economic inequalities in Victoria, using one of the Socio-Economic Indexes for Areas (SEIFA) constructed by the Australian Bureau of Statistics (ABS).

The Index of Relative Socio-Economic Disadvantage (IRSED) developed by the ABS using 2001 population and housing Census data, is used to categorise areas on the basis of their social and economic characteristics (ABS, 2004). The IRSED is derived from the following area attributes:

- percentage of persons aged 15 years and over with no qualifications
- percentage of families with income less than $15,000
- percentage of families with offspring having parental income less than $15,000
- percentage of females (in the labour force) unemployed
- percentage of males (in the labour force) unemployed
- percentage of employed females classified as 'labourer and related workers'.

The reference score for Australia is set to 1,000. A score lower than 1,000 indicates lower socio-economic status.

The IRSED is compiled initially at the collector's district (CD) level, a census data collection unit that in urban areas is broadly equivalent to a small group of suburban blocks. This report uses IRSED scores for local government areas (LGAs), which are constructed by computing weighted average scores (based on population census counts) across all CDs within an LGA. In aggregate, LGAs cover the whole of Australia without gaps or overlaps. LGAs were grouped into quintiles so that each contained approximately 20 per cent of the Australian population.

References

Draper, G., Turrell, G. and Oldenburg, B., 2004, *Health inequalities in Australia: mortality*, Health inequalities, monitoring series no 1, AIHW Catalogue no PHE 55, Canberra.

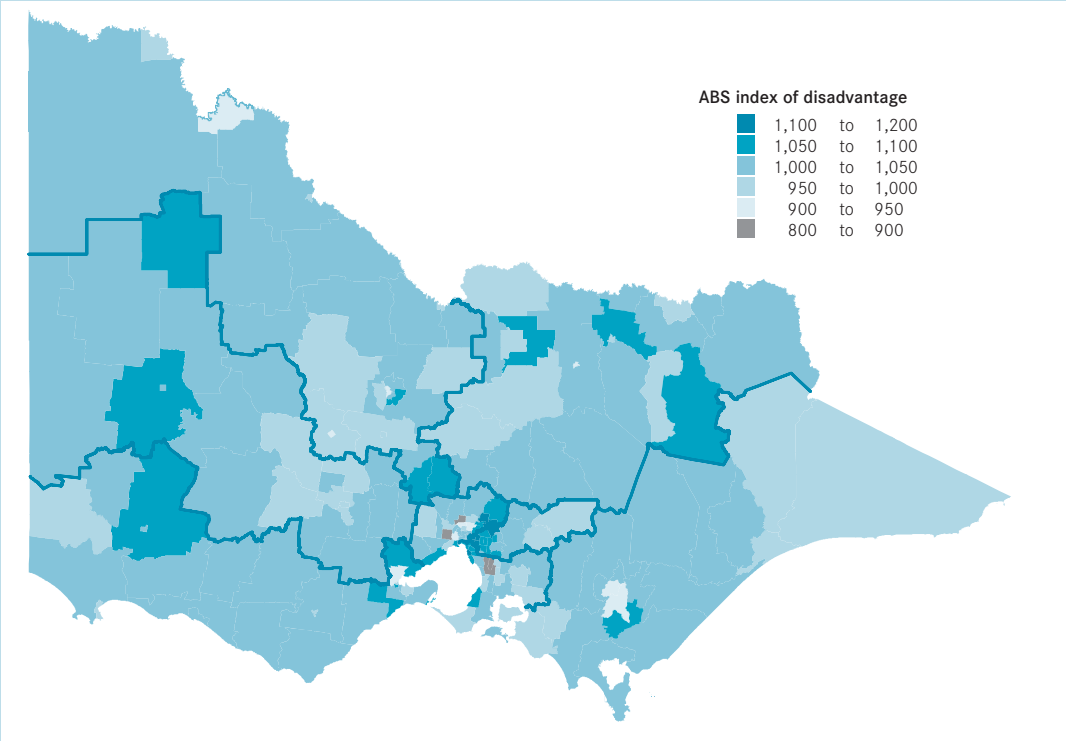
Australian Bureau of Statistics, 2004, *Census of population and housing: socio-economic indexes for areas, Australia 2001,* Technical paper, ABS Catalogue no 2039.0,55.001, Canberra.

For more information

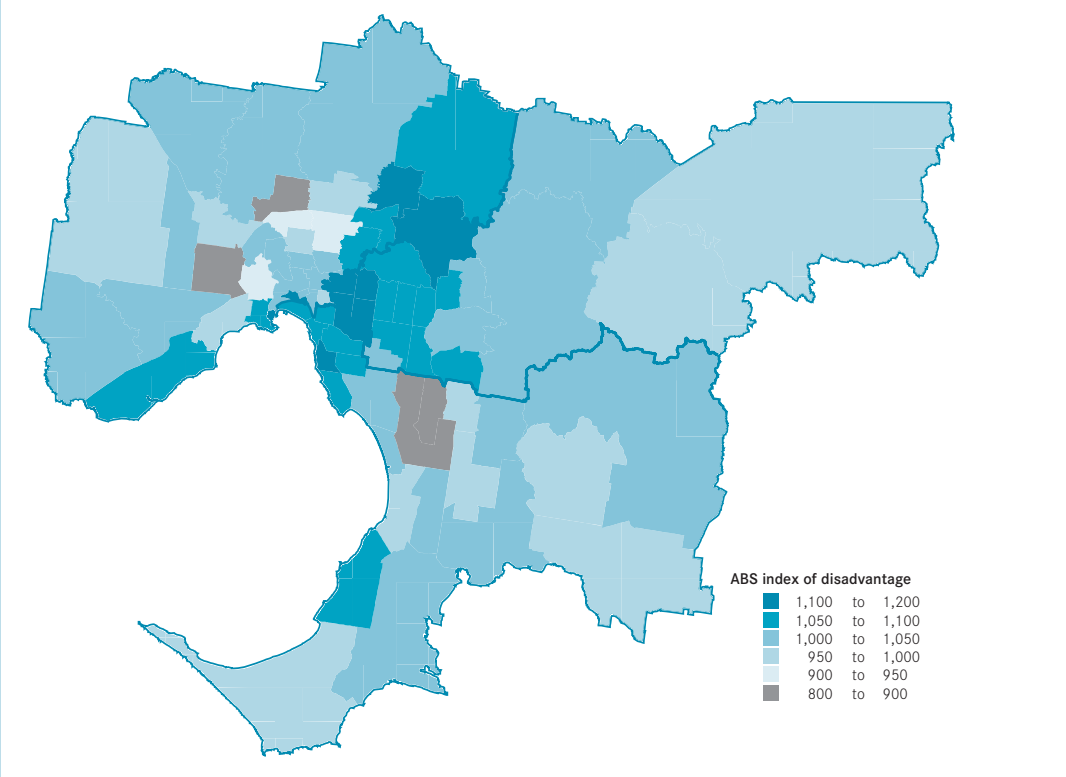
Australian Bureau of Statistics, www.abs.gov.au

Index of Relative Socio-Economic Disadvantage

Australian Bureau of Statistics Index of Relative Socio-Economic Disadvantage, Victoria, 2001

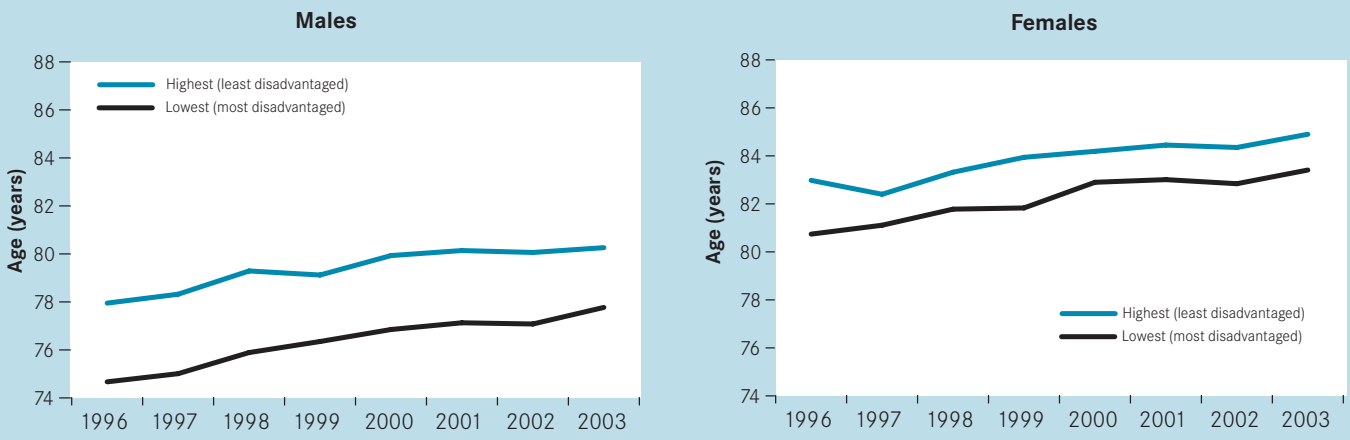


Australian Bureau of Statistics Index of Relative Socio-Economic Disadvantage, Metropolitan Melbourne, 2001



Life expectancy at birth by IRSED

Life expectancy at birth, IRSED, quintiles 1 and 5, Victoria, 1996–2003



Source: Australian Bureau of Statistics, Census of population and housing, 1996 and 2001; and mortality data.

Life expectancy at birth is compared between the highest and lowest population quintiles of socio-economic status in Victoria over the years 1996 to 2003 for males and females. The Index of Relative Socio-Economic Disadvantage (IRSED) compiled in Census year 1996 is used for years 1996 to 2000 inclusive. The IRSED compiled in Census year 2001 is used after 2000 to divide the Victorian population into five equal-sized population groupings for comparison on this and other health status indicators.

Over this eight-year period, the life expectancy at birth for males born in the most advantaged population quintile has improved from 78.0 to 80.3 years, while for males born in the least advantaged population quintile, it has risen from 74.7 to 77.8 years. The gap in male life expectancy at birth between the most and least advantaged population quintiles has decreased from 3.3 to 2.5 years.

Over the same period, the life expectancy at birth for females born in the most advantaged population quintile has improved from 83.0 to 84.9 years, while for females born in the least advantaged population quintile, it has risen from 80.7 to 83.4 years. The gap in female life expectancy at birth between the most and least advantaged population quintiles has decreased from 2.2 to 1.5 years.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Life expectancy*, www.health.vic.gov.au/healthstatus/le.htm

Contact

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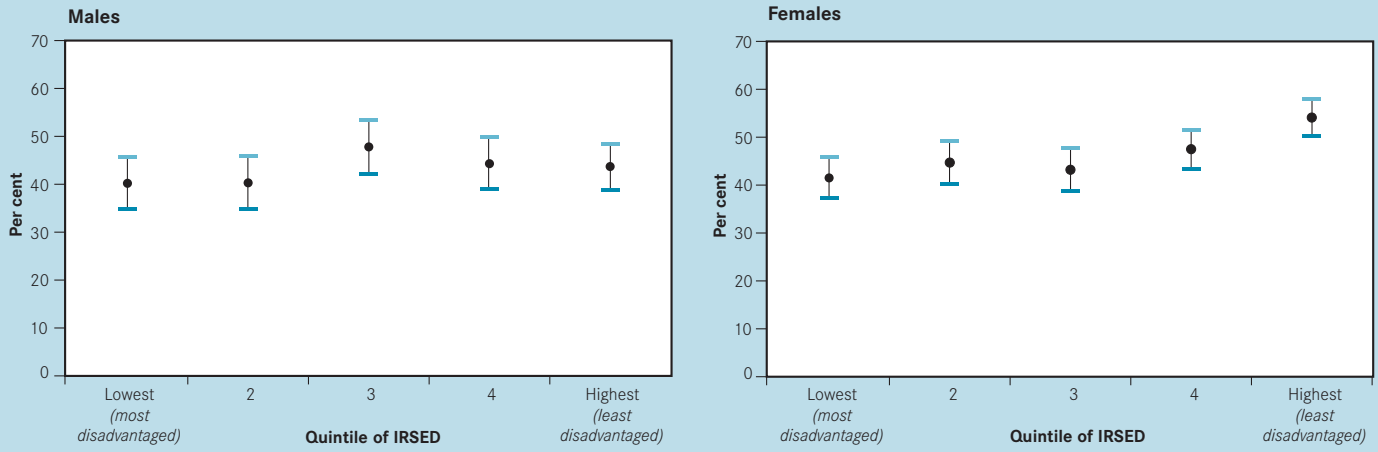
Self-rated health status by IRSED

Excellent/very good health self-reported health status, by IRSED quintile, Victoria, 2004



Source: Department of Human Services, *Victorian population health survey, 2004.*

The proportion of males who reported that their health status was either excellent or very good in 2004 was similar for those living in areas that scored in the lowest (relatively more disadvantaged) through to the highest quintiles of IRSED (40.2 per cent versus 43.7 per cent). The proportion of females who assessed their health status as excellent or very good varied from 41.5 per cent among those living in areas scored in the lowest quintile of IRSED, to 54.1 per cent among those living in relative less disadvantaged areas.

For more information

Department of Human Services, (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

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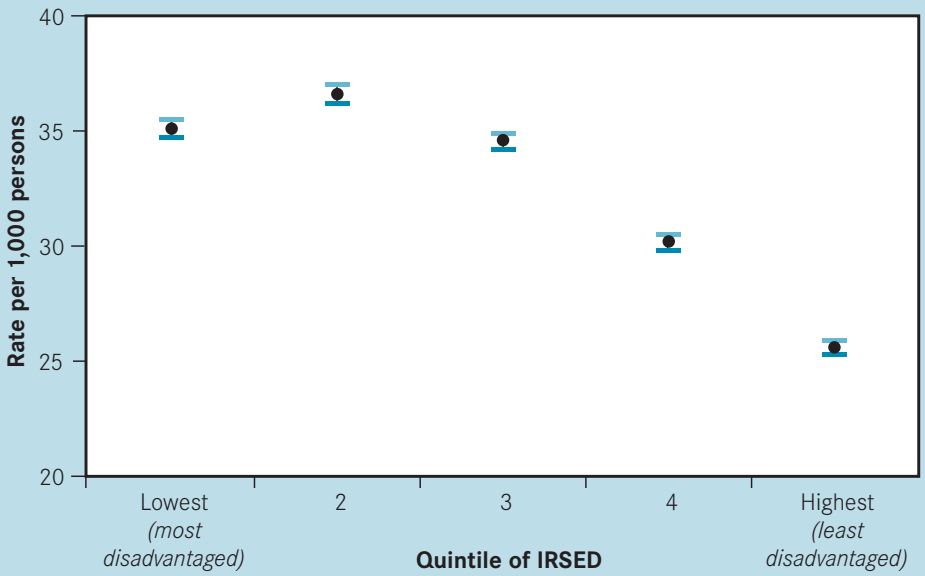
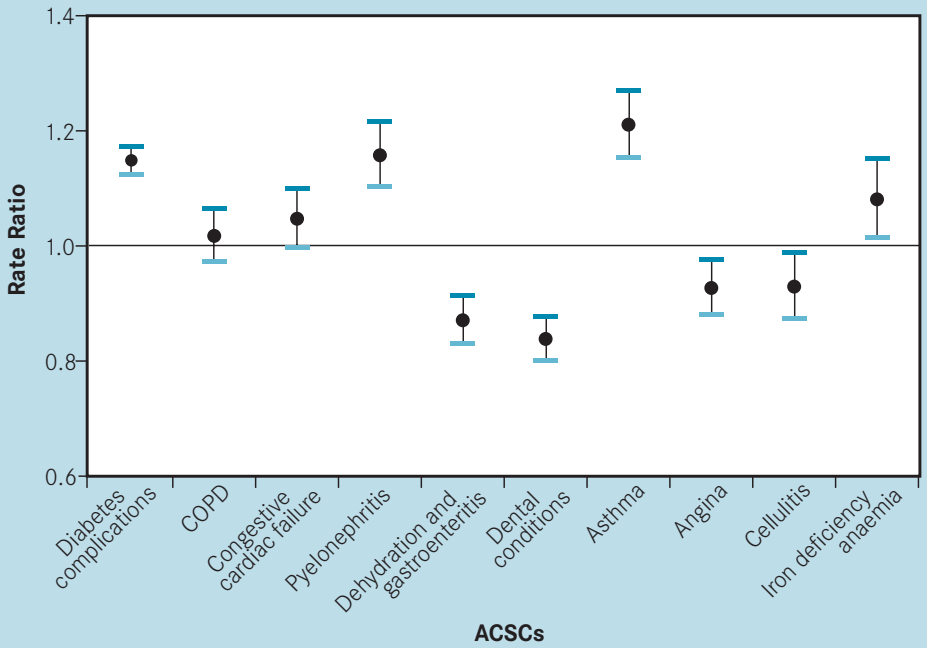
Ambulatory care sensitive conditions by IRSED

Total ACSCs by quintile of IRSED, Victoria, 2003–04



Admission rates for total ambulatory care sensitive conditions (ACSCs) varied from 35.1 per 1,000 persons (34.7–35.5) for individuals living in areas in the lowest quintile of IRSED (relatively more disadvantaged), to 25.6 per 1,000 persons for individuals in areas in the highest quintile of IRSED. Admission rates for total ACSCs for individuals in the second quintile of IRSED were 36.6 per 1,000 persons (36.2–37.0).

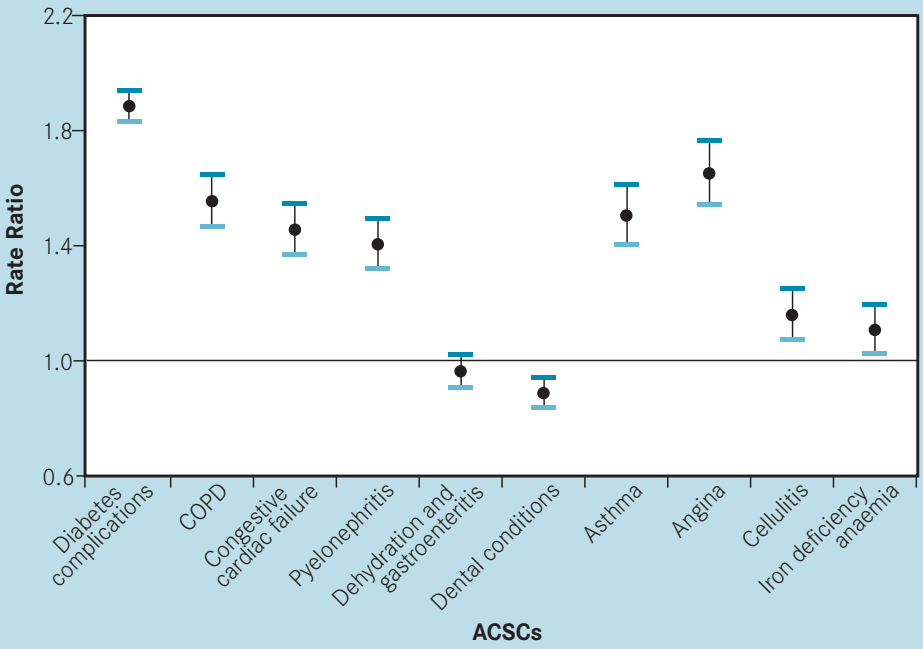
Admission rate ratios for top ten ACSCs in lowest (most disadvantaged) quintile (Q1) compared with Victoria, 2003–04



Note: COPD = chronic obstructive pulmonary disease.

The admission rate ratios for individuals in areas in the lowest socio-economic quintile were significantly higher in 2003–04 than the Victorian averages for four of the top ten ACSCs admissions (diabetes complications, pyelonephritis, asthma and iron deficiency anaemia).

Admission rate ratios for top ten ACSCs in lowest (most disadvantaged) quintile (Q1) compared with highest (least disadvantage) quintile (Q5), Victoria, 2003–04



Note: COPD = chronic obstructive pulmonary disease.

Comparing the admission rate ratios for the top ten ACSCs for individuals in areas with the lowest and the highest quintiles of IRSED indicates that there were significant differences by socio-economic status for most of the top ten ACSCs in 2003–04. There were differences in admission rate ratios by socio-economic status for a range of chronic (diabetes complications, chronic obstructive pulmonary disease, congestive cardiac failure, asthma and angina) and acute conditions (pyelonephritis, cellulitis and iron deficiency anaemia).

For more information

Department of Human Services, 2002, *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

Contact

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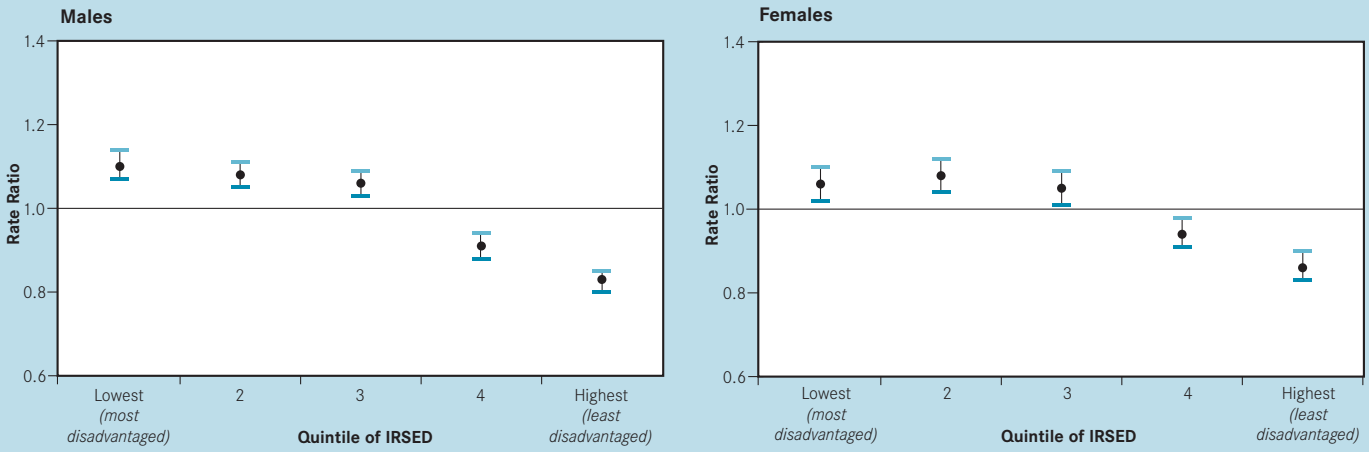
Avoidable mortality by IRSED

Avoidable mortality rate ratios (Victoria=1), 1997–2001, by quintiles of IRSED (2001)



Note: CI = confidence interval.

There is a clear gradient of rate ratios of avoidable mortality rates. The two least disadvantaged quintiles had rate ratios significantly below the Victorian average. Those in the more disadvantaged quintiles had rate ratios significantly above the Victorian average.

Contact
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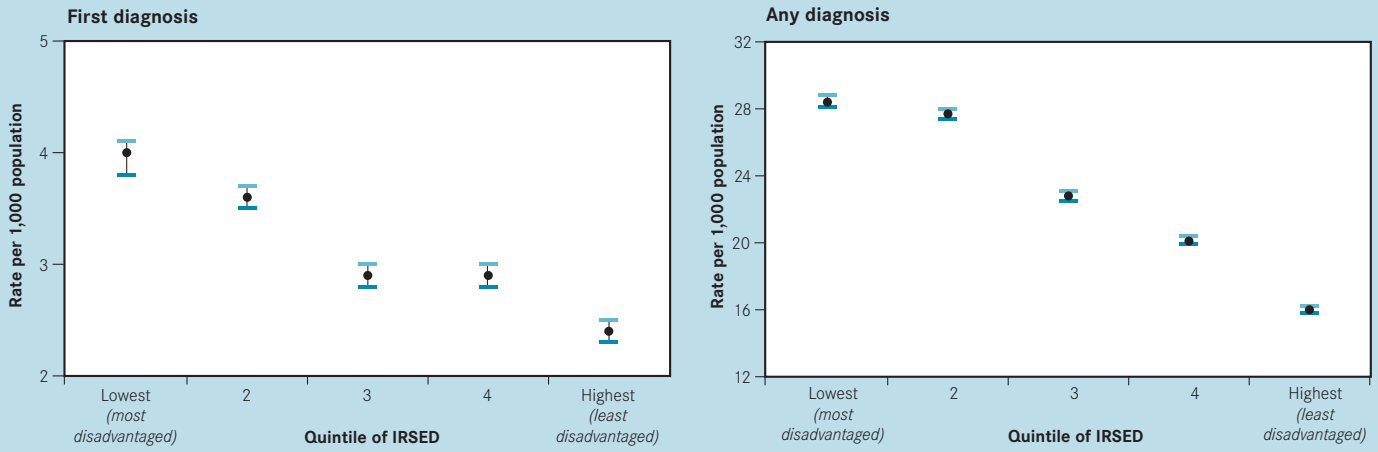
Selected national health priority area conditions by IRSED

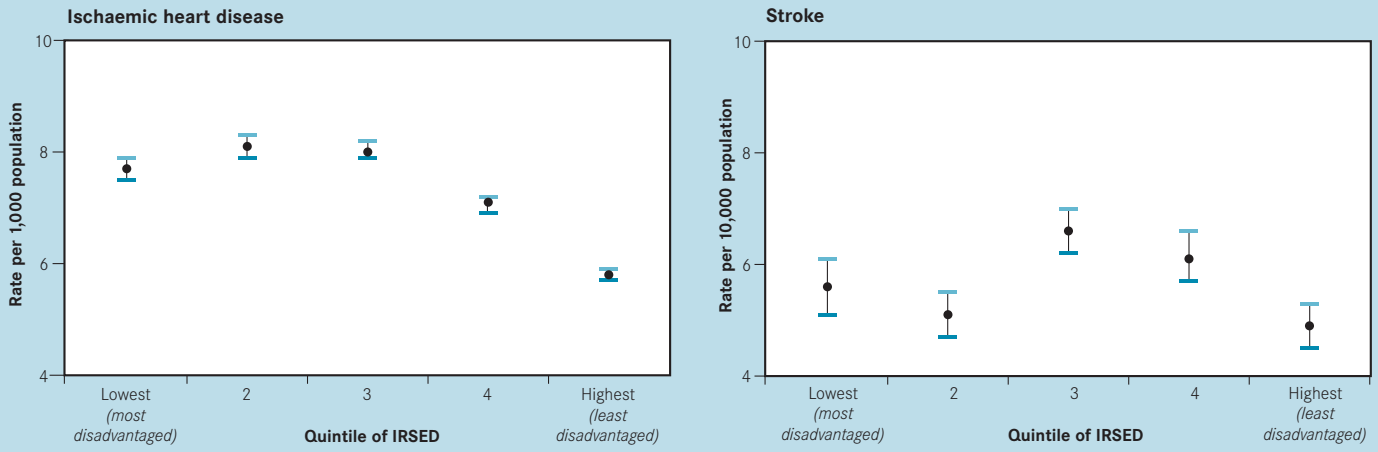
Diabetes admissions by quintile of IRSED, Victoria, 2003–04



Source: Department of Human Services, Victorian Admitted Episodes Dataset, 2003–04.

Admission rate for diabetes on first (principal) diagnosis varied from 4.0 per 1,000 persons (3.8–4.1) in Q1 (most disadvantaged) to 2.4 per 1,000 persons (2.3–2.5) in Q5 (least disadvantaged). This reflects a 67 per cent higher admission rate in Q1 compared with Q5 for principal diagnosis of diabetes. A similar pattern was observed for diabetes admissions (any diagnosis).

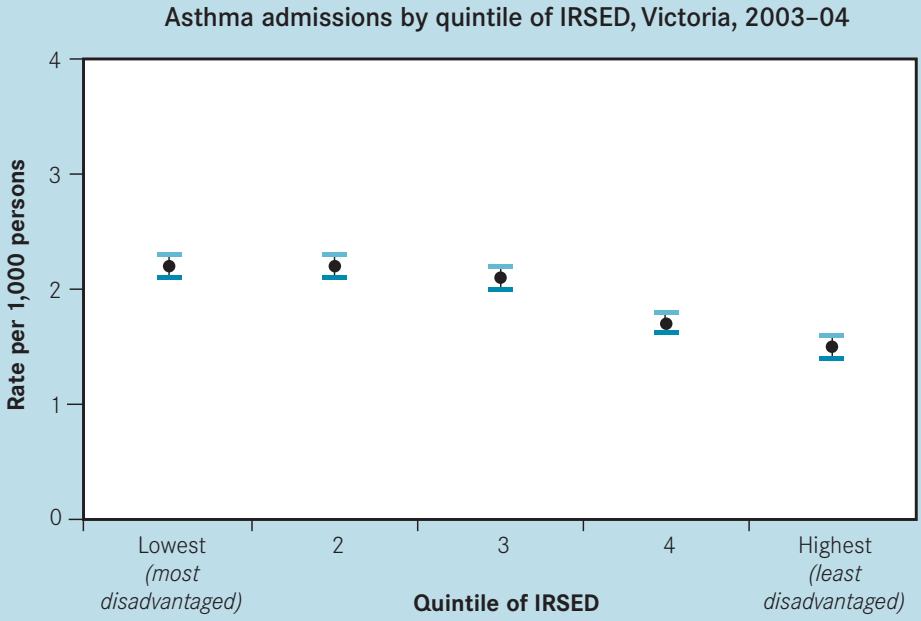
Cardiovascular disease conditions by quintile of IRSED, Victoria, 2003–04



Source: Department of Human Services, Victorian Admitted Episodes Dataset, 2003–04.

Admission rates for ischaemic heart disease (IHD) varied from 7.7 per 1,000 persons (7.5–7.9) in IRSED Q1 (most disadvantaged) to 5.8 per 1,000 persons (5.7–5.9) in Q5 (least disadvantaged). This represents a 33 per cent higher admission rate in Q1 compared with Q5. Admission rates for stroke varied from 5.6 per 10,000 persons (5.1–6.1) in Q1 with 4.9 per 10,000 persons (4.5–5.3) with Q5. This reflects a 14 per cent higher admission rate for stroke in Q1 compared with Q5. For both IHD and stroke there was a strong decreasing trend between Q3 and Q5, while there was no clear trend between Q1 and Q3.

Selected national health priority area conditions by IRSED



Source: Department of Human Services, Victorian Admitted Episodes Dataset, 2003–04.

Admission rates in 2003–04 for asthma varied from 2.2 per 1,000 persons (2.1–2.3) in Q1 to 1.5 per 1,000 persons (1.4–1.6) in Q5. This represents a 47 per cent higher admission rate for Q1 (most disadvantaged) compared with Q5 (least disadvantaged) in 2003–04.

For more information

Department of Human Services (Public Health), *National health priority areas,* www.health.vic.gov.au/nhpa

Department of Health and Ageing, www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pq-nhpa-index.htm

National Health Priority Action Council, www.nhpac.gov.au

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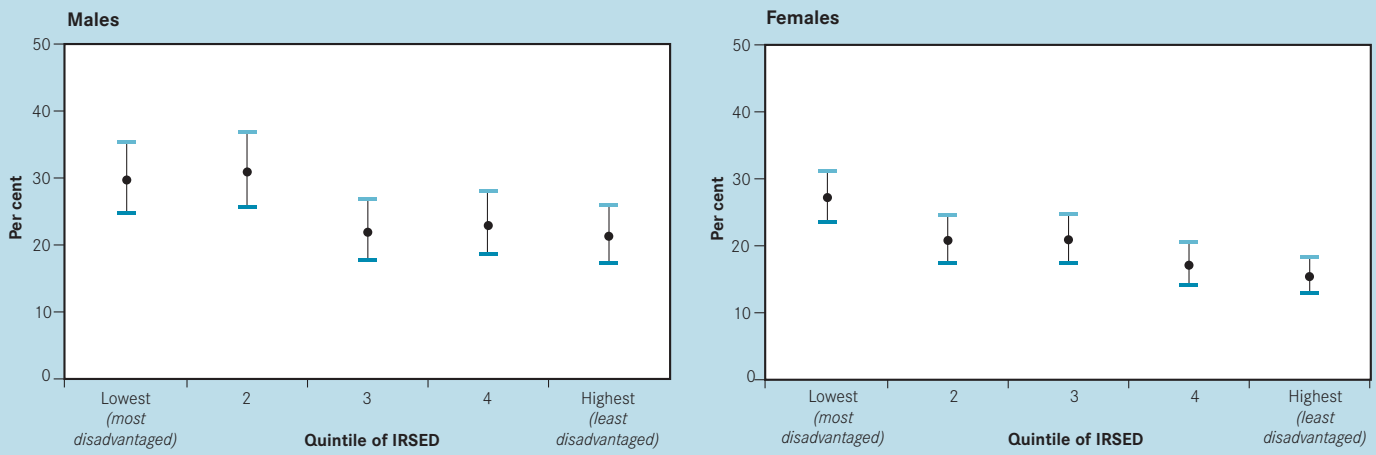
Smoking by IRSED



Note: Current smokers include those who reported smoking daily and those who reported smoking occasionally.
Source: Department of Human Services, *Victorian population health survey 2004*.

Current smoking includes 'daily' and 'occasional' smoking.

In 2004, 21.3 per cent (17.3–25.9) of males living in areas scored in the highest quintile of IRSED (relatively less disadvantaged) were current smokers, compared with 29.7 per cent (24.7–35.3) of those living in areas scoring in the lowest quintile.

A significantly smaller proportion of females residing in areas scored in the highest quintile of IRSED (relatively less disadvantaged) were current smokers, compared with those living in areas scored in the lowest quintile (15.4 per cent and 27.2 per cent respectively).

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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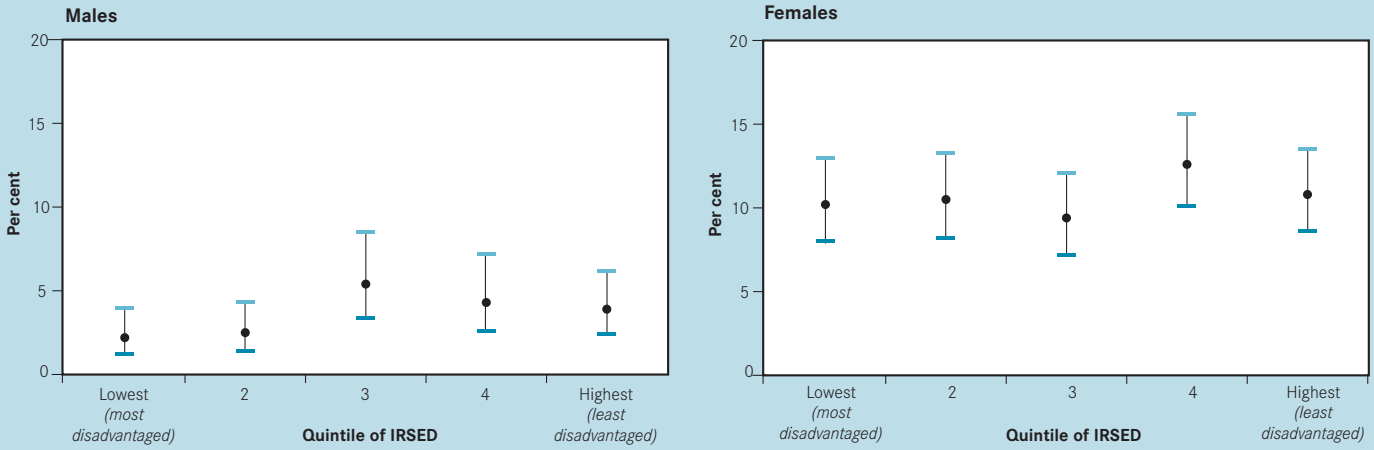
Recommended daily serves of vegetables by IRSED

Recommended daily serves of vegetables by quintile of IRSED, Victoria, 2004



Note: A serve is defined as half a cup of cooked vegetables or a cup of salad vegetables.
Source: Department of Human Services, *Victorian population health survey 2004*.

For males and females aged 12–18 years of age, the recommended daily intake of vegetables is three serves. Five serves of vegetables per day are recommended for males and females aged 19 years and over.

The proportions of males who reported consuming five or more serves (three or more for those aged 18) of vegetables per day in 2004 were similar across quintiles of relative socio-economic disadvantage.

The proportions of females who reported a daily intake of five or more serves of vegetables (three or more for those aged 18 years) were also similar among individuals living in areas with different levels of relative socio-economic disadvantage. Of females living in the most socio-economically disadvantaged areas, 10.2 per cent consumed the minimum number of daily serves of vegetables, compared with 10.8 per cent of those living in more advantaged areas.

A significantly greater proportion of females than males consumed the recommended daily serves of vegetables for each quintile of IRSED (except Q3).

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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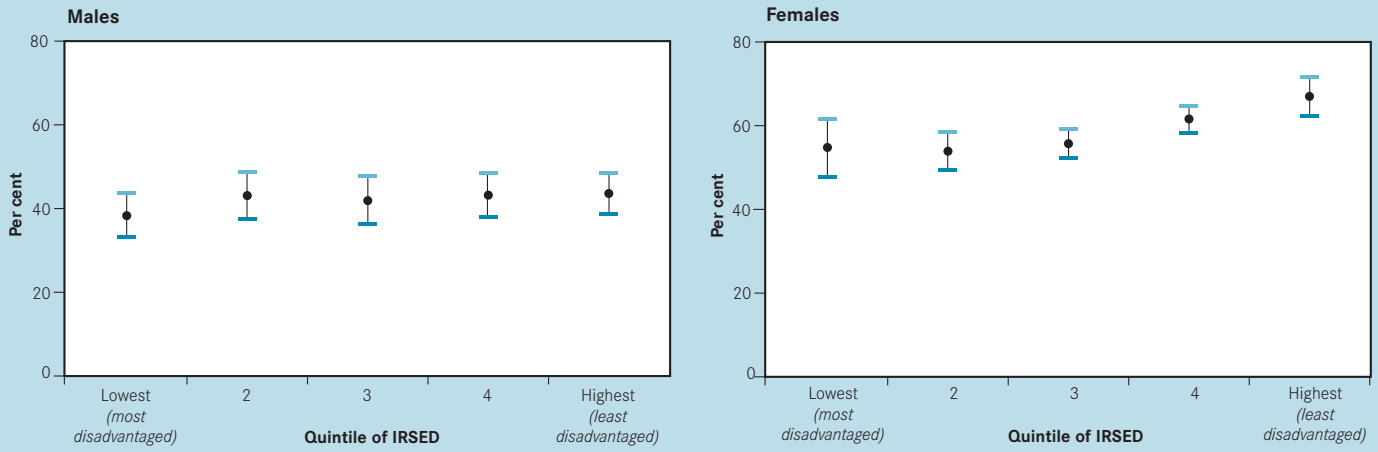
Recommended daily serves of fruit by IRSED

Recommended daily serves of fruit by quintile of IRSED, Victoria, 2004



Note: A serve is defined as one medium piece or two small pieces of fruit, or one cup of diced pieces.
Source: Department of Human Services, *Victorian population health survey 2004*.

The recommended daily intake of fruit is three serves for males and females aged 12–18 years of age, and two serves for males and females aged 19 years or over.

The proportion of males who reported consuming at least two serves (three or more for those aged 18) of fruit per day in 2004, was similar for different quintiles of IRSED. Approximately 38.3 per cent of males living in areas of lower relative socio-economic disadvantage usually consumed the recommended quantity of fruit each day, compared with 43.6 per cent of those living in areas of higher socio-economic disadvantage.

The proportion of females who reported a daily intake of two or more serves of fruit (three or more for those aged 18 years) was significantly greater among those residing in areas with higher IRSED scores (least disadvantaged) relative to those living in more disadvantaged areas. Almost 55 per cent of females living in the most socio-economically disadvantaged areas consumed the minimum number of daily serves of fruit, compared with 67.0 per cent of those living in more advantaged areas.

The proportion of females who consumed the recommended number of serves of fruit each day was significantly greater than the proportion of males for each quintile of IRSED.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

Contact

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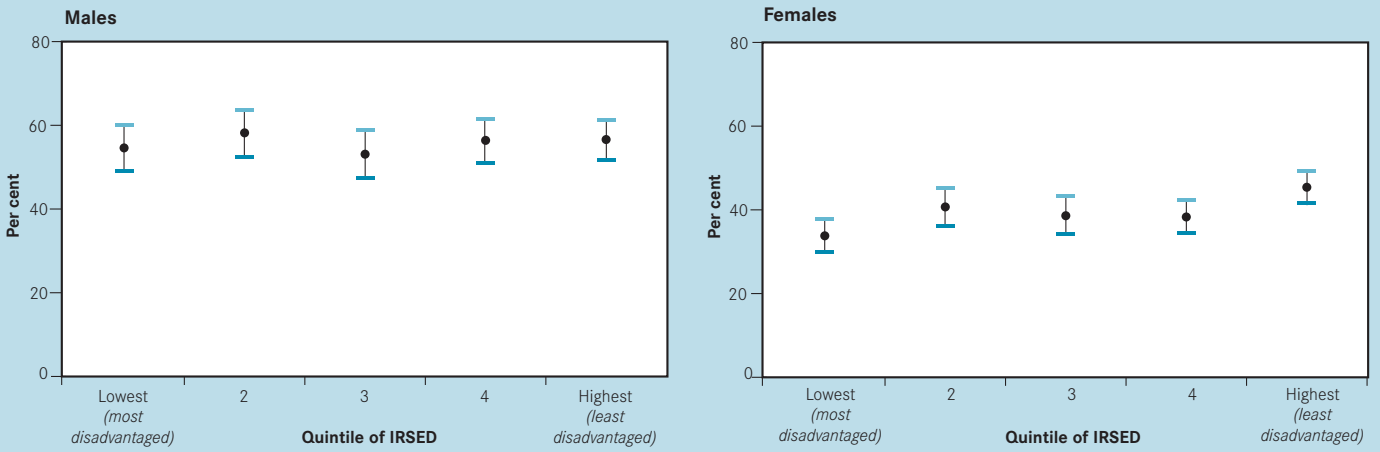
Any risky alcohol drinking behaviour by IRSED

Any short term risk of alcohol-related harm by quintile of IRSED, Victoria, 2004



Note: Risky alcohol drinking behaviour is defined as consuming more than six (if male) or four (if female) standard drinks on any one occasion. | A standard drink contains 10 grams or 12.5 millilitres of alcohol. Includes individuals at any short term (weekly, monthly or yearly) risk of alcohol-related harm.
Source: Department of Human Services, *Victorian population health survey 2004*.

Consuming more than six (if male) or four (if female) standard drinks of alcohol on one occasion per day exposes an individual to a range of risks of short term related harm including violence, road trauma and injury. These risks apply not only to the individual concerned but may also impinge on their families and the wider community.

The Victorian population health survey collects information about how frequently individuals aged 18 years or over exceeded this level of alcohol consumption. Individuals who consume alcohol at above these threshold levels with any frequency–weekly, monthly or yearly–are regarded as having some short term risk of alcohol-related harm.

The proportion of males who reported drinking at levels associated with any risk of short term harm in 2004 was similar across quintiles of IRSED. The proportion of males who drank six or more standard drinks on a single occasion at least yearly ranged from 54.6 per cent of those from areas scored in the lowest IRSED quintile, to 56.6 per cent of those from areas in the highest quintile (least disadvantaged).

A significantly lower proportion of females living in areas in the lowest quintile of IRSED (relatively more disadvantaged) reported that they consumed more than four drinks per occasion at least yearly, compared with those living in areas scored in the highest quintile of IRSED (33.8 per cent and 45.4 per cent respectively).

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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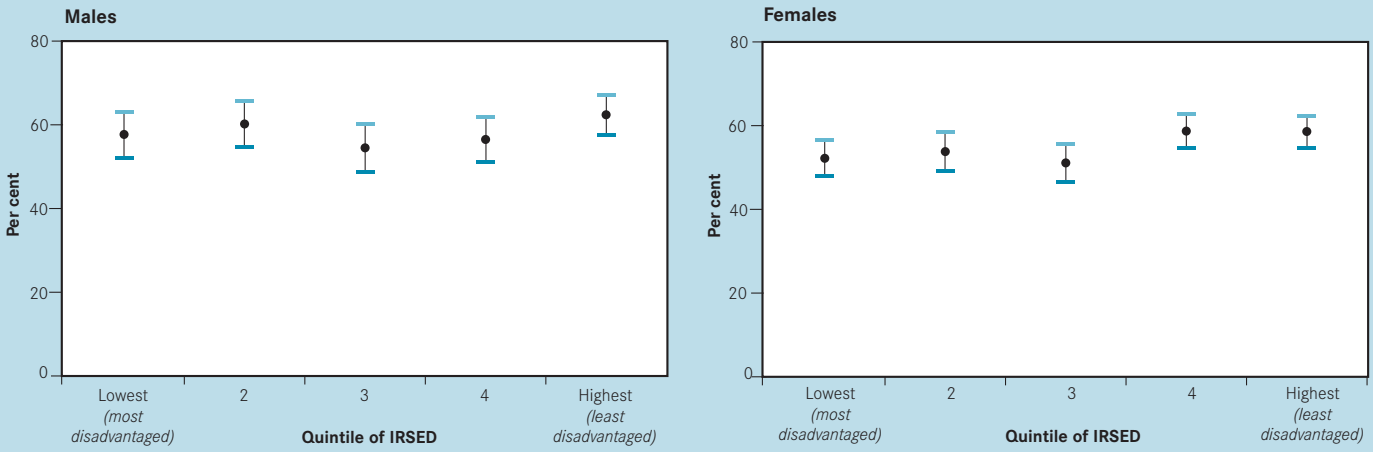
Sufficient physical activity by IRSED

Sufficient physical activity time and sessions by quintile of IRSED, Victoria, 2004



Note: Sufficient physical activity time and sessions is defined as at least 150 minutes per week, using the sum of walking and vigorous activity (weighted by two) and five or more sessions of physical activity per week.
Source: Department of Human Services, *Victorian population health survey 2004*.

To achieve health benefits, it is currently recommended that adults participate in moderate-intensity physical activity on all or most days of the week, for at least 30 minutes per day. 'Sufficient' physical activity is defined as a total of 150 minutes per week over five separate occasions.

There was little variation in 2004 in the proportion of males and females who engaged in sufficient regular physical activity by levels of relative socio-economic disadvantage. The proportion of males who undertook the recommended level of physical activity ranged from a low of 54.5 per cent of those living in areas in the third quintile of IRSED, to a high of 62.4 per cent of those residing in areas in the highest quintile of IRSED (least disadvantaged).

Among females, 52.2 per cent of those living in areas scored in the lowest quintile of IRSED (relatively more disadvantaged) participated in sufficient physical activity to achieve health benefits, compared with 58.6 per cent of those from areas scored in the highest quintile of IRSED.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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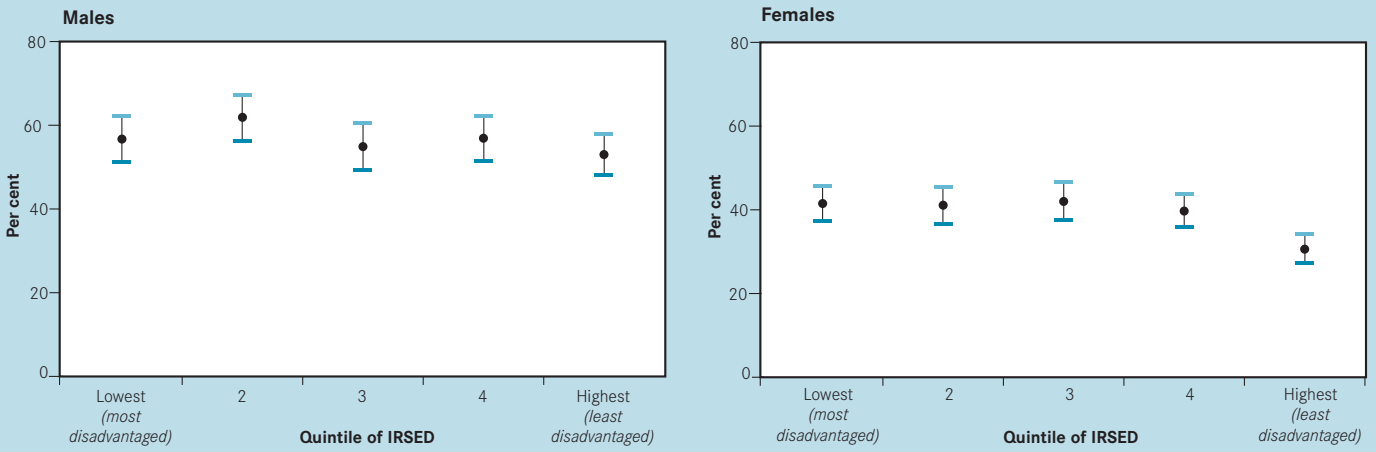
Overweight/obesity by IRSED

Overweight/obesity by quintile of IRSED, Victoria, 2004



Note: Individuals are classified as overweight or obese, based on their body mass index (BMI). BMI is calculated from self-reported height and weight.
Source: Department of Human Services, *Victorian population health survey 2004*.

Self-reported height and weight were used to calculate each person's body mass index (BMI), a measure used to classify individuals into body weight categories. A BMI of 25 to less than 30 is classified as overweight, and a BMI of 30 or more is classified as obese.

The proportion of males classified as overweight or obese in 2004 was similar across quintiles of IRSED.

A significantly greater proportion of females living in areas scored in the lowest quintile of IRSED (most disadvantaged) were classified as overweight or obese compared with those living in relatively higher socio-economic areas (41.5 per cent versus 30.6 per cent).

The proportion of males classified as overweight/obese was significantly greater than the proportion of females, for each of the IRSED quintiles.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), *Victorian population health survey 2004*, www.health.vic.gov.au/healthstatus/vphs.htm

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Rural health

In this chapter

Summary

- In 2003, approximately 72 per cent of the the state's population lived in metropolitan areas, and 28 per cent lived in rural/regional areas.
- Remoteness was associated with higher rates of avoidable mortality among males and females in 2001.
- Hospital admission rate ratios of total ACSCs for 2003–04 were 1.38 in lower Accessibility/Remoteness Index of Australia (ARIA) access areas, 1.22 in areas with mid-range access and 0.98 in areas with higher access.
- The highest hospital admission rate ratio for 2003–04 was 1.80 for diabetes complications in lower ARIA access areas.
- Remoteness was associated with higher hospital admission rates for diabetes (any diagnosis) and osteoarthritis. Compared with areas that were highly accessible, moderately accessible areas had hospital admission rates that were 39 per cent and 10 per cent higher, respectively.

Accessibility/Remoteness Index of Australia

The Accessibility/Remoteness Index of Australia (ARIA) is a geographical approach to defining remoteness, based on road distance meaurements from 11,340 populated localities in Australia to the nearest service centres, in five categories that are based on population size. As such, ARIA provides a comparable index of remoteness that is precise and stable over time, covering the whole of Australia. It deals with remoteness in terms of access as a separate dimension of areas, apart from other variables such as socio-economic status, rurality and population size.

ARIA measures remoteness in terms of access via the road network from population localities to each of five categories of service centre. It describes the distance that people have to travel to obtain services. Populated localities are the places where people are coming from, and service centres are where they are going to. There are four categories of service centre (population localities with a population greater than 5,000 persons):

Service centre category	Urban centre population
A	250,000 persons or more
B	48,000–249,999 persons
C	18,000–47,999 persons
D	5,000–17,999 persons

The continous score for a populated locality is obtained by adding four distance measurements (one for each level of service centre) and standardising to a ratio of the mean for that category. It has values ranging from 0 to 12.

One of the advantages of ARIA is its flexibility. It can be aggregated to a range of spacial units (for example, from a local government area to a region) and used as a continuum or as a classification. There are five ARIA categories across Australia:

1. **highly accessible** (ARIA score 0–1.84), relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction
2. **accessible** (ARIA score 1.84–3.51), some restrictions to accessibility of some goods and services and opportunities for social interaction
3. **moderately accessible** (ARIA score 3.51–5.80), significantly restricted accessibility to goods, services and opportunities for social interaction
4. **remote** (ARIA score 5.80–9.08), very restricted accessibility to goods, services and opportunities for social interaction
5. **very remote** ((ARIA score 9.08–12.0), locationally disadvantaged, very little accessibility to goods, services and opportunities for social interaction.

Aggregation at the local government area (LGA) level (based on the median ARIA value for the LGAs in a region) reduces the number of ARIA categories to the three (highly accessible, accessible and moderately accessible) that are used in the analyses reported in this chapter.

References

Department of Health and Aged Care and National Key Centre for Social Applications of Geographical Information Systems (GISCA), 1999, *Measuring remoteness: accessibility/ remoteness index of Australia (ARIA)*, Occasional papers, New series no 6, Canberra.

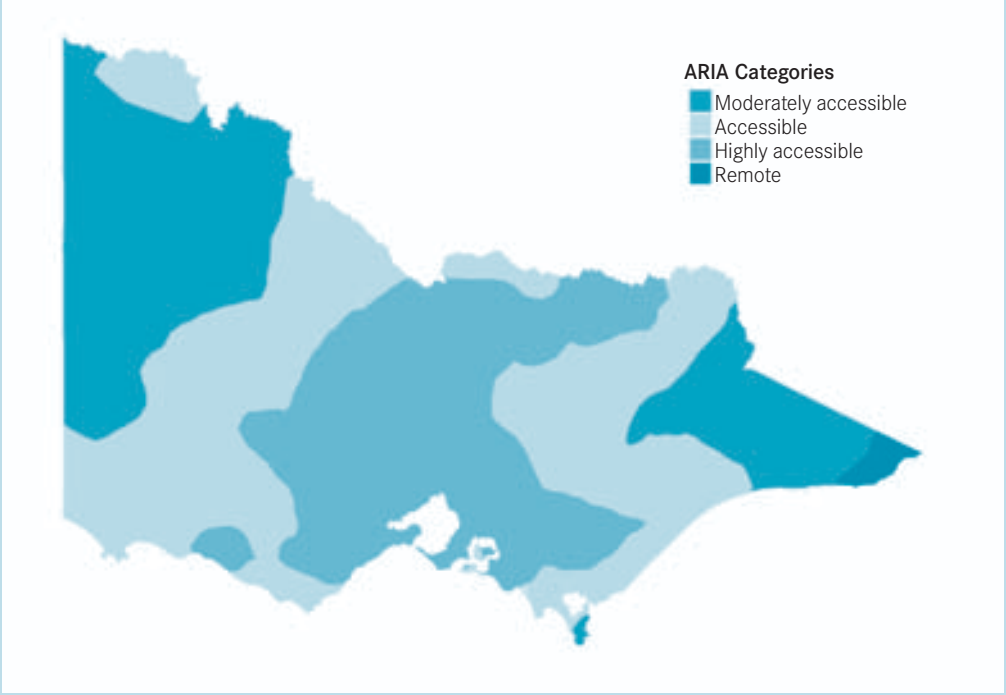
For more information

Information Section, Portfolio Strategies Division, Australian Government Department of Health and Ageing, www.health.gov.au/ari/aria.htm, ARIA@health.gov.au

National Key Centre for Social Applications of Geographical Information Systems (GISCA), The University of Adelaide, South Australia, telephone **61 8 8303 3900**, facsimile **61 8 8303 3498**, **gisca@gisca.adelaide.edu.au**, www.gisca.adelaide.edu.au/products_services/ariav2_about.html

Accessibility/remoteness within Victoria

Accessibility/remoteness, by local government area and region



Note: ARIA localities for all populated localities (> 5,000 persons) in Victoria are spatially interpolated to form a grid of 1 km x 1 km cells and displayed as a chloropleth map.

ARIA classifications by Department of Human Services region, Victoria, June 2001

Region	ARIA remoteness category range	Average ARIA score Low/High
Barwon-South Western	Accessible to highly accessible	1.3 / 2.2
Grampians	Accessible to highly accessible	1.7 / 2.9
Loddon Mallee	Moderately accessible to highly accessible	1.5 / 2.8
Hume	Moderately accessible to highly accessible	1.2 / 2.5
Gippsland	Moderately accessible to highly accessible	1.5 / 3.4
Rural/regional Victoria	***Moderately accessible to highly accessible***	***1.4 / 2.7***
North and West Metropolitan	Highly accessible	0.0 / 1.1
Eastern Metropolitan	Highly accessible	0.0 / 0.5
Southern Metropolitan	Highly accessible	0.0 / 0.5
Metropolitan Melbourne	***Highly accessible***	***0.0 / 0.4***
Victoria	**Moderately accessible to highly accessible**	**0.0 / 6.6**

Note: ARIA is derived from the road distance of 11,340 populated localities in 201 towns of specified size ('service centres') across Australia. For each locality, distances are converted to a continuous measure from 0 (high accessibility) to 12 (high remoteness) and grouped into five categories: 'highly accessible', 'accessible', 'moderately accessible', 'remote', and 'very remote'. The ARIA index does not provide specific information about the accessibility of health services. Average ARIA scores are derived from local government area ARIA scores.
Source: National Key Centre for Social Applications of Geographic Information Systems (GISCA), 2001.

Area, population and proximity to Melbourne

Area, population and proximity to Melbourne, by Department of Human Services region

Region	Estimated resident population 2003 Number	Per cent	Average distance to Melbourne (kms)	Average travel time to Melbourne (minutes)	Area (km^2)
Barwon-South Western	347,289	7.1	202.5	121.4	29,635
Grampians	211,165	4.3	213.4	127.9	47,980
Loddon Mallee	298,903	6.1	242.6	145.1	59,149
Hume	256,727	5.2	230.2	132.3	40,427
Gippsland	242,980	4.9	171.5	104.0	41,538
Rural/regional Victoria	***1,357,064***	***27.6***	***216.1***	***128.3***	***218,730***
North and West Metropolitan	1,430,468	29.1	N/A	N/A	2,980
Eastern Metropolitan	973,957	19.8	51.1	38.0	2,966
Southern Metropolitan	1,155,732	23.5	51.5	33.8	2,888
Metropolitan Melbourne	***3,560,157***	***72.4***	***48.2***	***32.9***	***8,834***
Victoria	**4,917,311**	**100.0**	**136.4**	**81.5**	**227,564**

Note: Distance to Melbourne reflects the distance by road from the geographic centre of the region to the Melbourne GPO by the shortest practical route. The travel time in minutes represents the travel time from the geographic centre of the region to the Melbourne GPO at the maximum legal speed under ideal conditions (that is, without interference from stop signs, red lights, or heavy traffic, and under good conditions), via the quickest practical route. Although this travel time is unlikely to be achieved, it provides an indication of relative travel times between two places.

Source: MapInfo Drivetime; Australian Bureau of Statistics, Estimated resident population.

Approximately 72 per cent of the the state's population lived in metropolitan areas in 2003. The remaining 28 per cent lived in rural and regional areas.

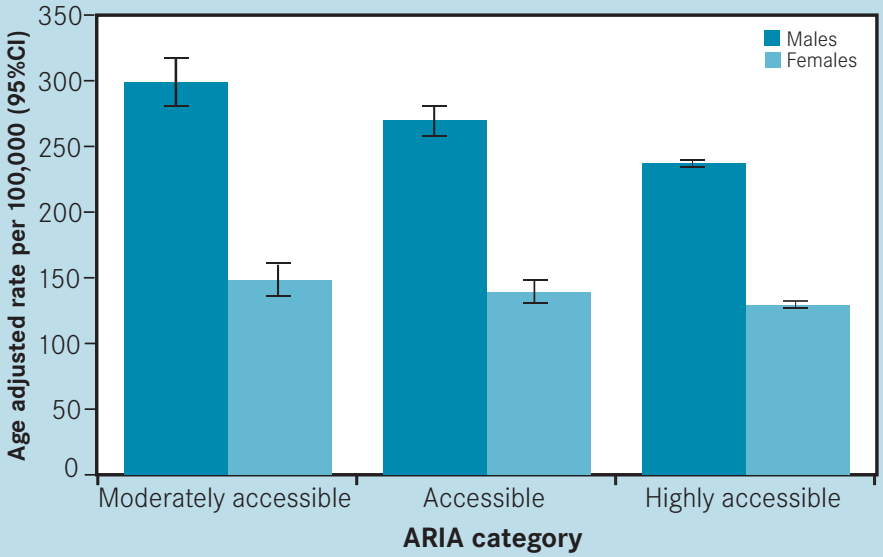
Among the rural health regions in Victoria, the average distance to Melbourne is greatest for people living in the Loddon Mallee Region, also the largest region in terms of area. Locations in the Gippsland Region have the shortest average distance to Melbourne, whereas the Barwon–South Western Region is the smallest of the rural regions in terms of area.

For more information

Department of Human Services, Rural and Regional Health and Aged Care Services, www.dhs.vic.gov.au/rrhacs/

Avoidable mortality by ARIA

Avoidable mortality in Victoria, by sex, by ARIA, 1997–2001



Note: CI = confidence interval.

The degree of remoteness was associated with higher rates of avoidable mortality among males and females in 2001. Areas which were moderately accessible had higher rates of avoidable mortality among males and females compared with highly accessible areas.

Contact
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Ambulatory care sensitive conditions by ARIA

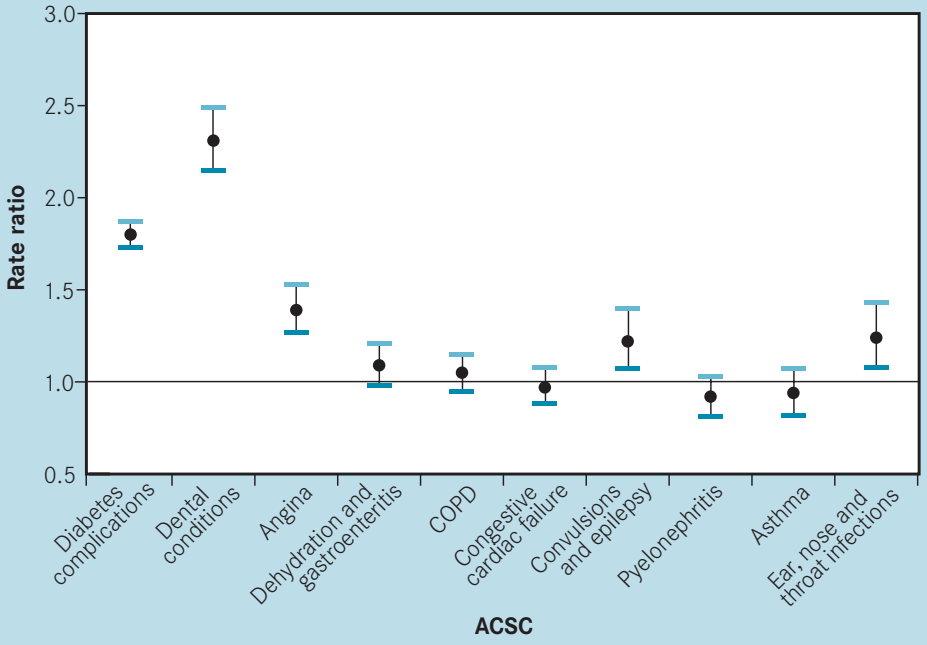
Top ten ACSCs admission rate ratios, ARIA 1 (moderately accessible), (highly accessible=1), descending order of standardised rate, Victoria, 2003–04

ACSC	Rate ratio	Lower 95% CI	Upper 95% CI
Diabetes complications	1.80*	1.73	1.87
Dental conditions	2.31*	2.15	2.49
Angina	1.39*	1.27	1.53
Dehydration and gastroenteritis	1.09	0.98	1.21
COPD	1.05	0.95	1.15
Congestive cardiac failure	0.97	0.88	1.08
Convulsions and epilepsy	1.22*	1.07	1.40
Pyelonephritis	0.92	0.81	1.03
Asthma	0.94	0.82	1.07
Ear, nose and throat infections	1.24*	1.08	1.43

Note: CI = confidence interval. The top ten ASCSs are listed in descending order of the standardised admission rate for ARIA 1 (moderately accessible). * Significant at $p < 0.05$.

Source: Department of Human Services, Victorian Admitted Episodes Dataset, 2003–04.

Top ten ACSCs admission rate ratios, ARIA 1 (moderately accessible), (highly accessible=1), descending order of standardised rate, Victoria, 2003–04



The top ten ambulatory care sensitive conditions (ACSCs) in Victoria vary significantly by degree of remoteness as measured by ARIA.

Admission rate ratios for the top ten ACSCs in lower access areas were mostly higher than for areas with higher access. The highest admission rate ratio was 2.31 (2.15-2.49) for dental conditions (highly accessible=1).

The analysis by ACSCs has identified gaps in the delivery of primary health care services in rural and regional Victoria. In this way, it offers opportunities to improve planning of public health and health services interventions to reduce access barriers, improve the adequacy of primary care and reduce demand on the hospital system in Victoria.

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), 2002, *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

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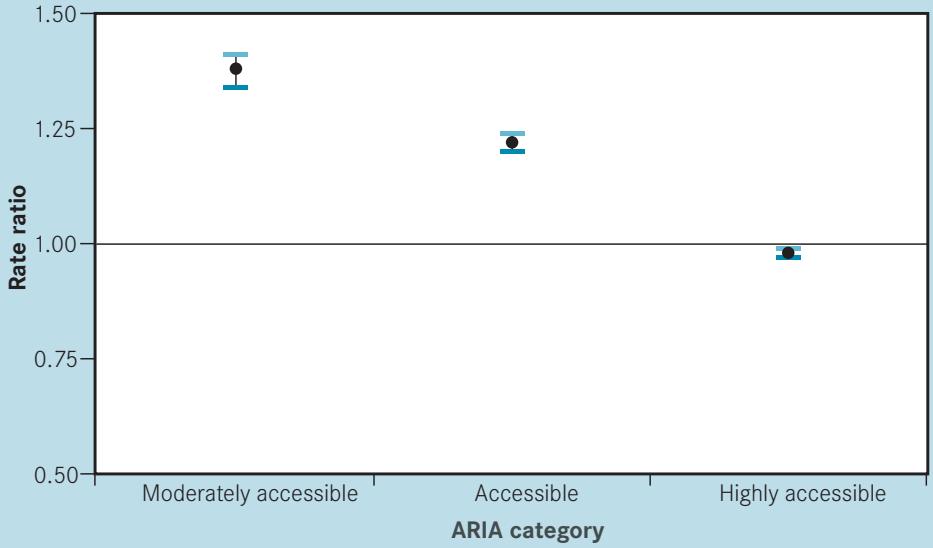
Total ACSCs admission rate ratios by ARIA category (Victoria=1), Victoria, 2003–04



ARIA Category	Rate ratio	Lower 95% CI	Upper 95% CI
Moderately accessible	1.38	1.34	1.41
Accessible	1.22	1.20	1.24
Highly accessible	0.98	0.97	0.99

Note: CI = confidence interval.
Source: Department of Human Services, Victorian Admitted Episodes Dataset, 2003–04.

Better access to primary health care prevents unnecessary hospitalisations and improves the health status of the population. Analyses from the Victorian ambulatory care sensitive conditions study have identified significant differentials and inequalities in access to the primary health care system in Victoria.

Admission rate ratios for total ACSCs vary significantly by degree of remoteness as measured by ARIA. In Victoria, admission rate ratios (Victoria=1) of total ACSCs were 1.38 (1.34–1.41) in moderately accessible areas (ARIA 3.51–5.80), 1.22 (1.20–1.24) in accessible areas (ARIA 1.84–3.51) and 0.98 (0.97–0.99) in highly accessible areas (ARIA 0–1.84). ‘

For more information

Department of Human Services (Health Surveillance and Evaluation Section, Public Health), 2002, *The Victorian ambulatory care sensitive conditions study*, www.health.vic.gov.au/healthstatus/acsc/index.htm

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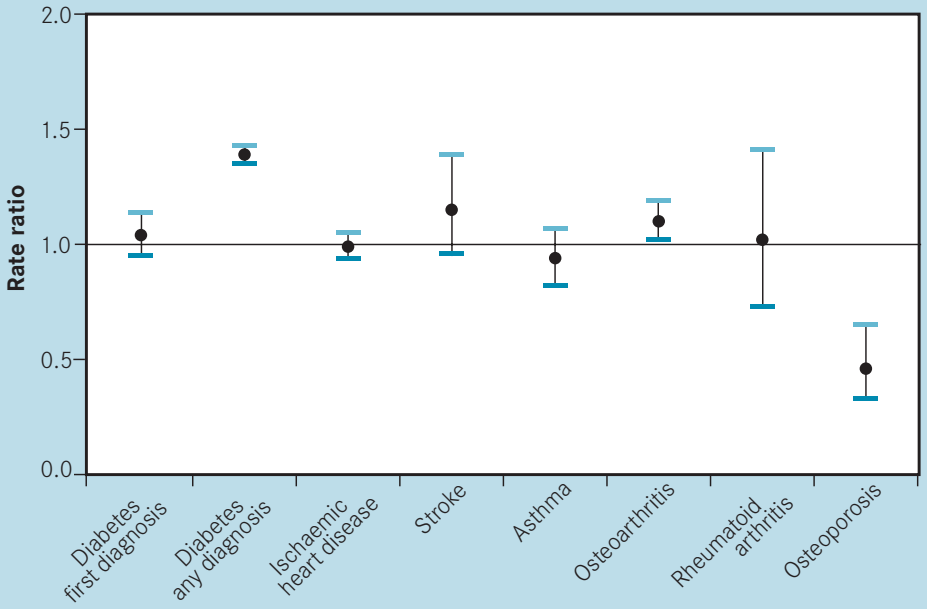
Selected national health priority area conditions by ARIA

Selected national health priority area conditions admission rate ratios for ARIA 1 (moderately accessible), ARIA 3 (highly accessible)=1, Victoria, 2003-04



National health priority area	Rate ratio	Lower 95% CI	Upper 95% CI
Diabetes – first diagnosis	1.04	0.95	1.14
Diabetes – any diagnosis	1.39	1.35	1.43
Ischaemic heart disease	0.99	0.94	1.05
Stroke	1.15	0.96	1.39
Asthma	0.94	0.82	1.07
Osteoarthritis	1.10	1.02	1.19
Rheumatoid arthritis	1.02	0.73	1.41
Osteoporosis	0.46	0.33	0.65

Note: CI = confidence interval. Reference ARIA category is highly accessbile (ARIA score (0.00–1.84).
Source: Department of Human Services, Victoria Admitted Episodes Dataset, 2003–04.

Degree of remoteness has been identified as a factor leading to differential rates of hospitalisations for selected national health priority areas (NHPAs) in Australia. Those living in remote areas, for example, are hospitalised for diabetes at over twice the rate of their counterparts in metropolitan areas (AIHW, 1998). Hospitalisation rates may be affected by a number of factors in remote areas, including a greater propensity to admit to hospital due to the lack of alternative care options.

Degree of remoteness was associated with higher admission rates for diabetes (any diagnosis) and osteoarthritis. In areas that were moderately accessible, admission rates for diabetes (any diagnosis) and osteoarthritis were 39 per cent and 10 per cent higher, respectively.

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Australian Institute of Health and Welfare, 1998, *Health in rural and remote Australia*, www.aihw.gov.au

For more information

Department of Health and Aged Care,
www.health.gov.au/pq

National Health Priority Action Council (NHPAC),
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Appendices

This section contains a brief description of the major data sources used and the statistical methods employed in their analysis and interpretation.

- Methods
  - Victorian population health survey
  - Burden of disease
  - Life expectancy at birth for local government areas, 1999–2003
  - Victorian ambulatory care sensitive conditions study
  - National health priorities
  - Victorian cancer registry data
  - Injury and poisoning
  - Communicable diseases
  - Avoidable mortality
- Table 1: National health priority area conditions and International Classification of Disease (ICD) codes used
- Table 2: Ambulatory care sensitive conditions and International Classification of Disease (ICD) codes used
- Table 3: Avoidable mortality conditions and International Classification of Disease (ICD) codes used

Methods

Victorian population health survey (VPHS)

The VPHS 2004 was administered by Computer Assisted Telephone Interview (CATI) on a representative sample (n=7,500) of persons aged 18 years and over, residing in private dwellings in Victoria. Department of Human Services staff supervised the fieldwork, which was outsourced to a market research agency. All data were self-reported and stored directly in the CATI system. Random digit dialling was used to generate the sample of telephone numbers, and all residential households with landlines were considered in scope for the survey. The survey sample was stratified by department region. This type of survey delivery excludes various population groups such as the homeless or itinerant; those persons in hospitals or institutions; the frail and aged; and those persons with disabilities that preclude them from participating in an interview.

Letters were mailed to all households where the randomly selected telephone number matched a listing in an electronic directory, and this approach is known to contribute to an increase in response rates. Up to six calls were made to establish contact with a household, with a further nine calls attempted to complete an interview. Interviews were conducted in six languages other than English, and a participation rate of 61 per cent was achieved. Survey data were weighted to reflect the probability of selection of the respondent in each household and the age, sex and geographic distribution of the population.

Burden of disease

Disability-adjusted life years

The Victorian burden of disease study is largely based on the methods developed for the global burden of disease study (Murray and Lopez, 1996). The method allows the quantification of all states of ill health into a universal indicator, the disability-adjusted life year (DALY). The DALY is a health gap measure that combines both time lost due to premature mortality and non-fatal conditions. The DALY extends the concept of potential years of life lost due to premature death (PYLL) to include equivalent years of 'healthy' life lost by virtue of being in states other than good health. DALYs for a disease or health condition are calculated as the sum of the years of life lost due to premature mortality (YLL) in the population, and the equivalent 'healthy' years lost due to disability (YLD) for incident cases of the health condition.

$$DALY = YLL + YLD$$

Years of life lost

YLLs are the mortality component of DALYs. To define the standard, the highest life expectancy observed for any nation (that is, the 82.5 years life expectancy of women in Japan) was chosen. The standard expectations are, therefore, based on a model life table, namely Coale and Demeny model life table West level 26, which has a life expectancy at birth for females of 82.5 years. The male-female 'biological' difference in survival potential was chosen as 2.5 years. There is no male schedule with a life expectancy of 80 years, therefore, the standard life expectancy at birth for males of 80 years was based on the female schedule for Coale and Demeny model life table West level 25 (Mathers et al., 2001). This life table is different from the Australian cohort life expectancy (which takes declining mortality trends into account) created by Mathers and colleagues for the Australian national burden of disease study (Mathers et al., 1999) and the 1996 Victorian burden of disease study (Vos and Begg, 1999b; Vos and Begg, 1999a).

The interpolated life expectancy for each age category and sex was estimated from the observed mean age at death, in the age interval and the life expectancy figures at the exact ages defining the age interval. The mean life expectancy in each age interval was then discounted at 3 per cent using the formula

$$YLL = \frac{1}{0.03}(1 - e^{-0.03L})$$

where L is the life expectancy. YLL conversion figures were calculated for each age group and sex, and then multiplied by the observed deaths to derive the YLLs by cause, age and sex.

Years lost due to disability

Years lost due to disability are the disability component of DALYs. The basic formula for calculating YLD is

$$YLD = I \times DW \times L$$

where I is the number of incident cases in the reference period, DW is the disability weight (in the range zero to one) and L is the average duration of disability (measured in years). With discounting at a rate of 3 per cent, the formula becomes

$$YLD = \frac{I \times DW \times (1-e^{-0.03L})}{0.03}$$

Consistent and meaningful YLD estimates depend on a clear definition of the condition under consideration, in terms of case or episode and severity level or disease stage. It is then necessary to ensure that the disability weight and the population incidence or prevalence data relate to the same case definition. The most difficult step in estimating YLD for most diseases is matching existing population data to the disease stage or severity categories for which weights of different severity are available. Errors in this matching can result in a substantial error in the YLD estimate.

Life expectancy at birth for local government areas, 1999–2003

To determine life expectancy at birth for local government areas (LGAs), registered Australian Bureau of Statistics (ABS) mortality and mid-year estimated resident population (ERP) data 1999–2003 were used. LGAs with a population of less than 30,000 were aggregated with adjacent LGAs. Deaths of persons with place of usual residence in Victoria were included during this period, and deaths with unidentified place of usual residence or missing age were excluded. 95 per cent confidence intervals (CI) for life expectancy at birth were calculated by simulation with @RISK software (Palisade, 1996).

Life tables combine mortality rates of a population at different ages into a single model, and project life expectancy assuming that current death rates will continue into the future. The Chiang method (1984) is used to calculate abridged current life tables for the period 1999–2003 by sex for each small geographic area. Age of death was grouped into age groups of 0, 1–4, 5–9 and continued in five-year intervals to age 85+. The life tables were computed and simulated in MS Excel spreadsheets.

Victorian ambulatory care sensitive conditions study

Hospital admissions data

Hospital separation data were obtained from the Victorian Admitted Episodes Dataset (VAED). The VAED is a minimum dataset containing data on all admitted patient activity (submitted by all public and private acute hospitals) including acute facilities in rehabilitation, extended care institutions and day procedure centres.

Clinical data are stored as ICD-9-CM and ICD-10-AM codes in diagnosis and procedure fields in the VAED. The VAED records were selected on the basis of diagnosis fields, with some exclusions based on procedure fields. Ambulatory care sensitive conditions (ACSCs) identified using the ICD-9-CM and ICD-10-AM codes in the diagnosis fields of the VAED are indicated in table 2.

Population data

Population figures by gender and five-year age groups were obtained using the ERP figures produced by the ABS. The population data were used for calculating admission rates and 95 per cent CI.

Boundaries of catchment areas

To analyse individual ACSCs admissions to hospital, admission rates for defined geographic areas must be calculated. The boundaries of the geographic areas in Victoria (that make up local government areas under the Australian Standard Geographic Classification) have changed significantly over the past decade. There are currently 200 statistical local areas, which make up 79 local government areas. These boundaries have been collapsed into 32 Primary Care Partnership (PCP) catchment areas, with the population in 2003 ranging from a minimum of 31,025 (Grampians Pyrenees PCP) to a maximum of 421,486 (Outer East PCP). Information from the VAED at the hospital admission level was used to assign each patient's place of usual residence to one of the 32 PCPs. Comparisons across the PCPs are made for the period 1999–2000 to 2003–04, while comparisons across the 11 years from 1993–94 to 2003–04 are made at the department region level.

Calculation of standardised admission rates

Admission rates were age and sex standardised (direct method) using the 1996 Victorian population as the reference. The 95 per cent CI for the standardised rates were based on the Poisson distribution.

Trend analysis

Data from 1993–94 (up to 30 June 2004) were used in this analysis. Prior to 1993, not all hospitals were contributing to the database, and also in that year, casemix funding was introduced for hospitals.

National health priorities

The National Health Priority Areas (NHPA) initiative is a collaborative effort endorsed by the Australian and all state and territory governments. The NHPA initiative seeks to focus the attention of the health sector on diseases or conditions that have a major impact on the health of Australians, and offer potential for significant health gain. The NHPA initiative spans the continuum of care, from prevention and early detection through to treatment, rehabilitation and continuing care, palliative care and research. There are seven national health priority areas:

1. Cardiovascular health and stroke
2. Diabetes Mellitus
3. Asthma
4. Arthritis and musculoskeletal conditions
5. Cancer control
6. Mental health (with a focus on depression)
7. Injury prevention and control

The ICD-9-CM and ICD-10-AM codes used to define these national health priority areas for extracting public and private hospital data from the VAED are summarised in table 1.

Victorian cancer registry data

Incident cases of all cancers and the leading five cancers (bowel, breast, prostate, lung and melanoma) were obtained from the Victorian Cancer Registry, Cancer Epidemiology Centre at The Cancer Council Victoria.

The Victorian Cancer Registry has been a population-based registry since 1982. The registry was enabled by the *Cancer Act 1982*, which made it mandatory for all hospitals and pathology laboratories to notify the cancer registry of the presence of cancer in patients or human tissues.

All malignant neoplasms are registered, as are in situ carcinoma of breast and cervix and in situ melanoma. Basal and squamous cell carcinomas of the skin are not registered, except for those occurring in genital and perianal skin, and the vermilion border of lip.

Non-melanocytic skin cancers are not registered by the Victorian Cancer Registry (or most other registries) because many are treated in doctors' surgeries using destructive techniques which preclude histological confirmation. Further, they vastly outnumber all other forms of cancer.

About 250 hospitals and 50 pathology laboratories currently notify cancer to the registry, increasingly via electronic media. In preparing the 2001 incidence data, over 80,000 notifications were processed. In addition, death certificates are obtained from the Registrar of Births, Deaths and Marriages in computerised format on a regular basis.

Statistical methods

Incidence rates were calculated using the estimated resident population for Victoria for 2001, and expressed as diagnoses or per 100,000 persons per year.

The crude rate is defined as the number of new cases (or deaths) divided by the whole population at risk in the specified time period, and is expressed as an annual rate per 100,000 persons.

Rates are adjusted to enable comparisons between populations having different age structures. The Victorian age standardised rates (ASR) in this publication were based on the ERP of Victoria on 30 June 1996 obtained from the ABS. These rates are calculated using the direct method by summation of the weighted age-specific rates.

Injury and poisoning

Indicator selection process

In selecting injury indicators, the definitions and validation tool recently developed by the International Collaborative Effort on Injury Statistics Indicators Group (Cryer et al., 2005) and the Injury Prevention Research Unit, University of Otago, New Zealand (Cryer et al., 2004) were used with some adjustments. The extensive technical review of the injury indicators included in the Injury Prevention and Control National Health Priority Areas (NHPA) program also informed our approach (Harrison and Steenkamp, 2002).

Definitions

An injury indicator is defined as a summary measure that denotes or reflects, directly or indirectly, variations in trends in injuries, or injury-related or injury control-related phenomena (Cryer, 2003).

Injury is defined as 'tissue damage resulting from either the acute transfer to individuals of the five forms of physical energy (kinetic or mechanical, thermal, chemical, electrical or radiation) or from the sudden interruption of normal energy patterns to maintain life patterns' (Waller, 1985).

The operational definition of an injury death is a case where the underlying cause of death is an external cause in the specified range in chapter XX of the ICD. The operational definition of serious injury is described in terms of the pathologies in this report in the chapter on injury and poisoning, and in chapter XIX of the ICD-10-AM, except for those coded under 'sequelae' (that is, late effects).

The New Zealand group excluded medical injuries (complications of surgical and medical care) from the operational definition of serious injury, along with pathologies resulting from chronic exposure over time and the consequences of injury, that is, the injury event is counted, but not subsequent episodes of treatment and care (Cryer et al., 2004). We included medical injuries in the figures showing all-injury trends in frequency and rates for injury deaths and hospital admissions, but excluded medical injury cases from all further analyses because this cause of injury is widely considered to be outside the domain of traditional injury prevention and control. Only first admissions were included, and because we focused on measuring serious injury incidence, we excluded episodes of inpatient care related to the late consequences (sequelae) of injury.

Data sources

Deaths

The source of indicators based on mortality data is the ABS–DURF provided to the Victorian Injury Surveillance and Applied Research Unit (VISAR). The ABS codes the data provided by the Victorian Registrar of Births, Deaths and Marriages using information on the cause of death supplied by medical practitioners certifying a death, or coroners to whom a death is reported (Harrison and Steenkamp, 2002). From 1979 to the end of 1996, deaths were coded according to the ICD-9. Death registrations have been coded according to the ICD-10 since 1 January 1997, and deaths are analysed by year of death occurrence.

Hospital admissions

The source of indicators based on morbidity data is the Victorian hospital admissions data extracted from the VAED compiled by the Department of Human Services. We identified cases of injury as those that had a primary diagnosis of injury or poisoning, and then in terms of the presence of the relevant external cause codes. Only first admissions were included: deaths and transfers (subsequent to first admission) within and between hospitals were excluded to avoid double counting. Episodes of inpatient care that were related to the late effects (sequelae) of injury were also excluded.

The VAED has contained near-complete records for admissions from public and private acute hospitals since 1994–95 and is assessed from that year to be sufficiently complete and valid to support trend monitoring (Harrison and Steenkamp, 2002). Up until the end of June 1998, hospital data were coded to a clinical modification of ICD-9 (ICD-9-CM). Victoria coded data according to ICD-10-AM from 1 July 1998 and then to upgraded versions in 2000 and 2002. The shift from ICD-9 to ICD-10 created some problems with monitoring trends for some causes of injury, because the range of codes in ICD-10 is not necessarily equivalent to the range in ICD-9.

Indicator validation tool

The tool is a work in progress and currently consists of six validation criteria. The comments included in this section detail the extent to which the indicators included in this chapter satisfy each criterion.

i) Case definition

The indicator should reflect the occurrence of injury satisfying some case definition of anatomical or physical damage, based on diagnosis, defect or pathology rather than use of services.

The case definition we have used for an injury death is not based on anatomical or physical damage (because ICD diagnosis data items are only available in the ABS-DURF from January 1997), but is specified solely in terms of the presence of one of the range of ICD External Causes of Injury codes as the underlying cause of death. By contrast, the case definition we have used for an injury hospital admission is based on ICD diagnosis data items.

ii) Serious injury

The indicator should be based on events that are associated with significant risk of impairment, functional limitation, disability or death, decreased quality of life, or increased cost (that is, serious injury).

We used duration of stay in hospital as the indicator of case severity and defined serious injury in terms of hospital admission, because admitted cases are at least moderately severe. In general, 'short stay' admissions–those discharged on the day of admission other than those ending in death or transfer to another hospital–were omitted because this group of admissions is particularly subject to variation over time and between hospitals. If case selection was based on a specific injury diagnosis, for example, forearm and wrist fracture, rather than an external cause, then 'short stay' admissions were included.

By contrast, the New Zealand research group (Cryer et al.) used a threat-to-life severity scale when defining a serious injury, and only included hospitalisations with an ICD-based Injury Severity Score (ICISS) of less than or equal to 0.941 (that is, a probability of death at admission of at least 5.9 per cent). This represented around 15 per cent of New Zealand injury hospital discharges.

While recognising that the New Zealand approach produces very stable and reliable indicators of serious injury, we assessed that it was too restrictive. The threshold we adopted represents about 70 per cent of Victorian injury hospital admissions.

iii) Case ascertainment

The probability of a case being ascertained should be independent of social, economic and demographic factors as well as service supply and access factors (that is, measure, with minimal bias, the occurrence of injury rather than the use of services).

The ABS–DURF supposedly includes all registered deaths, although the completeness of death registration in Victoria and the completeness of the ABS mortality file have not been evaluated (Harrison and Steenkamp, 2002). Serious injury normally results in hospital admission in Victoria so that the VAED offers potential to measure the incidence of serious injury. Ascertainment of overall hospital admissions for Victorian private and public hospitals is very high on the VAED from 1994–95 onwards, although ascertainment of injury cases on the VAED has not been studied separately (Harrison and Steenkamp, 2002).

From their review of the NHPA injury indicators and data sources, Harrison and Steenkamp (2002) identified the potential for biased ascertainment of cases relevant to an indicator from both death and hospital data sources. This was mainly due to underlying variations in data collection, coding and processing. Wherever possible, we have followed the technically revised specifications (designed to improve the performance of indicators sourced from mortality and hospital data for the purpose of monitoring injury rates) recommended by these authors.

iv) Representativeness

The indicator should be derived from data that are inclusive or representative of the target population that the indicator aims to reflect (that is, measures the occurrence of events relating to all sub populations equally well).

There are no systematic exclusions of sub populations from either of the data sources used. Alternative data sources,

for motor vehicle traffic and assault injury indicators, rely on police reports that may not represent injury incidence in all sub populations equally well due to reporting biases.

v) Data availability

Data should be derived from existing systems wherever possible, or where not possible, it should be practical to develop new systems.

Data have been derived from well-established injury surveillance data systems that allow trends to be monitored.

vi) Indicator specification

The indicator should be fully specific to allow calculation to be consistent at any place and at any time.

The specification for reporting on each indicator is summarised in the relevant section of this chapter under the figures. Full specifications are available from the VISAR.

Communicable diseases

Surveillance for communicable diseases occurs under the authority of the Health (Infectious Diseases) Regulations 2001. These regulations require medical practitioners and pathology laboratories to notify the department when they diagnose certain communicable diseases.

Notifiable diseases are classified in the regulations under four categories, Groups A, B, C and D. Group A diseases are those which require an immediate public health response, and all notifications are followed up to confirm the diagnosis; identify risk factors and sources of infection; and to prevent the further transmission of disease. Responses to Group B diseases are defined by disease-specific protocols. Some diseases have enhanced surveillance procedures, while responses to others may only occur if a cluster, outbreak or other unusual event is detected. Information may be collected from the patient, the notifying doctor or both. Enhanced surveillance systems implemented in Victoria are reported in the relevant sections.

Group C diseases are the sexually transmissible infections (excluding HIV/AIDS). Because complete identifiers are not required for these diseases, further information regarding the notification is only obtained from the notifying doctor. Group D diseases are HIV and AIDS, for which contact tracers follow up all notifications.

Analyses in this report were based on notification date, that is, the date on which the notification was received at the Communicable Diseases Section of the department. For some analyses of seasonal trends, notifications were reported by month of onset. Onset date may, however, not be the actual onset date of illness because this may be uncertain or not recorded for many diseases. In those circumstances, onset date was calculated using the earliest date entered into the system. Population notification rates were calculated using the 2001 mid-year estimated resident population (ERP) obtained from the ABS.

Notifications were counted in the Victorian dataset if the postcode of residence of the diagnosing doctor was in Victoria. Given that postcodes of residence of the case and doctor do not necessarily reflect the place of acquisition of infection, regional rates should be interpreted with caution. This is particularly important in small areas where the actual numbers reported may be too small for rates to be meaningful.

The department had nine health regions in Victoria in the reporting period, four in metropolitan Melbourne and five in regional areas. Each region comprises LGAs, and notifications are geocoded to LGAs by postcode and then allocated to a region. The denominators for regional rates were the 2001 mid-year ERP population from the ABS for the combined LGAs.

Changes have occurred in the number of notifications reported in previous annual reports for some diseases, due to the ongoing maintenance and update of notification datasets as new information became available, or as errors were detected through data cleaning processes. In addition, the Communicable Diseases Network Australia, in collaboration with states and territories, revised the surveillance case definitions for nationally notifiable diseases in Australia, therefore, some changes in total notifications may reflect a more sensitive or specific case definition.

Avoidable mortality

The analysis is based on mortality and population data for 1979–2001 supplied by the ABS for Victoria. ICD-9 coding was used between 1979 and 1996, and ICD-10 between 1997 and 2001. Mortality rates in Victoria between 1979 and 2001 were age standardised using the direct method, with Australia's 1991 population as the reference. Mortality rates in LGAs in Victoria between 1997 and 2001 were age standardised using the direct method, with Victoria's 2001 population as the reference. The statistical software package Stata (Version 8, College Station, Texas, USA) was used for all analyses.

The list of causes of avoidable mortality (AM) is presented in table 3. Tobias and Jackson initially compiled this list and defined it using only ICD-9 codes (Tobias and Jackson, 2001). The appropriate groupings of ICD-10 codes were subsequently developed by the New South Wales Department of Health in *The health of the people of New South Wales, 2002*. We have reviewed these codes and ensured that the codes in each category of disease and injury are mutually exclusive. All other causes of mortality for persons <75 years were assumed to be 'unavoidable mortality' (UM) for the purposes of this analysis.

Comparisons of total AM rates were made between the sexes over time (1979–2001) for Victoria as a whole. For the period between 1997 and 2001, comparisons of total AM and UM by sex were made between metropolitan and rural LGAs; between

LGAs grouped into quintiles based on their Index of Relative Socio-Economic Disadvantage (IRSED) score; and between LGAs grouped by categories of remoteness, based on their Accessibility/Remoteness Index of Australia (ARIA) score.

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Table 1: National health priority areas conditions and International Classification of Diseases (ICD) codes used

National health priority areas	ICD-9-CM codes (1993–94 to 2000–01)	ICD-10-AM codes (2001–02 to 2003–04)
Heart, stroke and vascular health	Diagnosis codes 390.0–459.9 • Ischaemic heart disease 410.0–414.9 • Stroke 430.0–438.9 • Peripheral vascular disease 441.0–444.9	Diagnosis codes G45, G46, I00–I99 • Ischaemic heart disease I20–I25 • Stroke G45, G46 and I60–I69 • Peripheral vascular disease I71–I74
Diabetes mellitus	Diagnosis codes 250.0–250.9	Diagnosis codes E09–E14
Asthma	Diagnosis codes 493.0–493.9	Diagnosis codes J45–J46
Arthritis and musculoskeletal conditions	Diagnosis codes • Osteoarthritis 715.0–715.9 • Rheumatoid arthritis 714.0–714.2, 714.31–714.33, 714.4–714.9 • Osteoporosis 733.0	Diagnosis codes • Osteoarthritis M15–M19 • Rheumatoid arthritis M05–M06 • Osteoporosis M80–M82
Cancer	NA	Diagnosis codes C00–D48
Injuries and poisoning	NA	Diagnosis codes S00–T98
Mental health	NA	Diagnosis codes F00–F99

Table 2: Ambulatory care sensitive conditions and International Classification of Diseases (ICD) codes used

Category	ICD9 codes	Notes (ICD9)	ICD10 codes	Notes (ICD10)
Influenza and pneumonia	481 4870 4871 4878 4822 4823 4829 483	In any diagnosis field, excludes cases with secondary diagnosis of 282.6, and people aged less than 2 months	J10 J11 J13 J14 J153 J154 J157 J159 J168 J181 J188	In any diagnosis field, excludes cases with secondary diagnosis of D57, and people aged less than 2 months
Other vaccine-preventable	032 033 037 045 055 056 0703 072 3200	In any diagnosis field	A35 A36 A37 A80 B05 B06 B161 B169 B180 B181 B26 G000 M014	In any diagnosis field
Asthma	493	Principal diagnosis only	J45 J46	Principal diagnosis only
Congestive heart failure	428 40201 40211 40291 5184	Principal diagnosis only, exclude cases with procedure codes of 35 36 375 376 377 378	I50 I110 J81	Principal diagnosis only, exclude cases with procedure codes according to attached list at the end of this table
Diabetes complications	2501 2502 2503 2504 2505 2506 2507 2508 2509	In any diagnosis field	E101 E102 E103 E104 E105 E106 E107 E108 E110 E111 E112 E113 E114 E115 E116 E117 E118 E130 E131 E132 E133 E134 E135 E136 E137 E138 E140 E141 E142 E143 E144 E145 E146 E147 E148	In any diagnosis field
Chronic obstructive pulmonary disease	491 492 494 496 4660	Principal diagnosis only, 4660 only with second diagnosis of 491 492 494 496	J20 J41 J42 J43 J44 J47	Principal diagnosis only, J20 only with second diagnosis of J41 J42 J43 J47 J44
Angina	4111 4118 413	Principal diagnosis only, exclude cases with procedure codes 01 to 8699	I20 I240 I248 I249	Principal diagnosis only, exclude cases with procedure codes NOT in blocks 1820 to 2140
Iron deficiency anaemia	2801 2808 2809	Principal diagnosis only	D501 D508 D509	Principal diagnosis only
Hypertension	4010 4019 40200 40210 40290	Principal diagnosis only, exclude cases with procedure codes of 35 36 375 376 377 378	I10 I119	Principal diagnosis only, exclude cases with procedure codes according to attached list at the end of this table
Nutritional deficiencies	260 261 262 2680 2681	Principal diagnosis only	E40 E41 E42 E43 E550 E643	Principal diagnosis only
Dehydration and gastroenteritis	2765 5589	Principal diagnosis only	E86 K522 K528 K529	Principal diagnosis only

Table 2: Ambulatory care sensitive conditions and International Classification of Diseases (ICD) codes used

continued

Category	ICD9 codes	Notes (ICD9)	ICD10 codes	Notes (ICD10)
Pyelonephritis	5900 5901 5908 5990	Principal diagnosis only	N390 N10 N12 N11 N136	Principal diagnosis only
Perforated/ bleeding ulcer	5310 5311 5312 5314 5315 5316 5320 5321 5322 5324 5325 5326 5330 5331 5332 5334 5335 5336 5340 5341 5342 5344 5345 5346	Principal diagnosis only	K250 K251 K252 K254 K255 K256 K260 K261 K262 K264 K265 K266 K270 K271 K272 K274 K275 K276 K280 K281 K282 K284 K285 K286	Principal diagnosis only
Cellulitis	681 682 683 686	Principal diagnosis only, exclude cases with procedure codes of 01 to 8699, except 860 where it is the only listed procedure	L03 L04 L08 L980 L88 L983	Principal diagnosis only, exclude cases with any procedure except those in blocks 1820 to 2016 or if procedure is 30216-02 30676-00 30223-02 30064-00 34527-01 34527-00 90661-00 and this is the only listed procedure
Pelvic inflammatory disease	614	Principal diagnosis only	N70 N73 N74	Principal diagnosis only
Ear, nose and throat infections	382 462 463 465 4721	Principal diagnosis only	H66 H67 J02 J03 J06 J312	Principal diagnosis only
Dental conditions	521 522 523 525 528	Principal diagnosis only	K02 K03 K04 K05 K06 K08 K098 K099 K12 K13	Principal diagnosis only
Convulsions and epilepsy	345 7803 6426	Principal diagnosis only	O15 G40 G41 R56	Principal diagnosis only
Gangrene	7854	In any diagnosis field	R02	In any diagnosis field

Procedure codes to use for exclusions for congestive heart failure and hypertension:

33172--00	35304--00	35305--00	35310--02	35310--00	38281--11	38281--07	38278--01	38278--00
38281--02	38281--01	38281--00	38256--00	38278--03	38284--00	38284--02	38521--09	38270--01
38456--19	38456--15	38456--12	38456--11	38456--10	38456--07	38456--01	38470--00	38475--00
38480--02	38480--01	38480--00	38488--06	38488--04	38489--04	38488--02	38489--03	38487--00
38489--02	38488--00	38489--00	38490--00	38493--00	38497--04	38497--03	38497--02	38497--01
38497--00	38500--00	38503--00	38505--00	38521--04	38606--00	38612--00	38615--00	38653--00
38700--02	38700--00	38739--00	38742--02	38742--00	38745--00	38751--02	38751--00	38757--02
38757--01	38757--00	90204--00	90205--00	90219--00	90224--00			

Table 3: Avoidable mortality conditions and International Classification of Diseases (ICD) codes used

Potentially avoidable condition	ICD-9 codes	ICD-10 codes	Conditions involved
Enteritis and other diarrhoeal diseases	001–009	A00–A09	Diarrhoeal diseases
Tuberculosis	010–018, 137	A15–A19, B90	Tuberculosis
Immunisation-preventable diseases	032–033, 037, 045, 055–056, 320.0, 771.0, 771.3	A33, A35–A37, A80, B05–B06, P35.0, A49.2, G00.0	Diphtheria, whooping cough, tetanus, polio, Hib, measles, rubella
HIV/AIDS	42	B20–B24	HIV/AIDS
Hepatitis and liver cancer	070, 155	B15–B19, C22.0, C22.1, C22.9	Hepatitis A, B, C, D, E, primary liver cancer
Sexually transmitted diseases (STDs)	090–099, 614.0–614.5, 614.7–616.9, 633	A50–A64, N34.1, N70.0, N70.9, N71.0, N71.1, N72, N73.0–N73.5, N73.8, N75.0, N75.1, N76.0, N76.2, N76.4, N76.6, N76.8, N77.0, N77.1, N77.8, O00, R59.1	Syphilis, gonorrhoea and other STDs, ectopic pregnancy
Skin cancers	140, 172, 173	C00, C43–C44	Lip, melanoma, other skin cancer
Colorectal cancer	153–154	C18–C21	Colorectal cancer
Oral cancers	141, 143–146, 148–149, 161	C02–C06, C09–C10, C12–C14, C32	Malignant neoplasm mouth, pharynx, larynx
Lung cancers	162	C33–C34	Malignant neoplasm, trachea, bronchus, lung
Breast cancer	174	C50	Breast cancer
Nutrition	260–269, 280, 281	D50–53, E40–E46, E50–E56, E63–E64	Nutritional deficits including anaemia
Alcohol-related conditions	291, 303, 305.0, 425.5, 535.3, 571.0–571.3	F10, I42.6, K29.2, K70	Psychosis, alcoholism, cardiac, gastric or liver damage due to alcohol
Chronic obstructive respiratory diseases	490–492, 496	J40–J44	Chronic bronchitis and emphysema
Ischaemic heart disease	410–414	I20–I22, I24, I25.1–I25.9	Ischaemic heart disease
Stroke	431, 433, 434, 436	I61, I62.0, I63.0–I63.5, I63.8–I63.9, I64–I66, I67.8	Intracerebral haemorrhage or occlusion
Neural tube defects	740–742	Q00–Q07	Congenital anomalies of brain and spinal cord
Low birth weight babies	764–765, 770.7	P05–P07, P22, P27	Prematurity, low birth weight, respiratory disease from prematurity
Sudden Infant Death Syndrome (SIDS)	798	R95	SIDS

Table 3: Avoidable mortality conditions and International Classification of Diseases (ICD) codes used

continued

Potentially avoidable condition	ICD-9 codes	ICD-10 codes	Conditions involved
Road traffic injury	E810–E829	V01.1, V02.1, V03.1, V04.1, V05.1, V06.1, V09.2, V09.3, V10.4, V10.5, V10.9, V11.4, V11.5, V11.9, V12.4, V12.5, V12.9, V13.4, V13.5, V13.9, V14.4, V14.5, V14.9, V15.4, V15.5, V15.9, V16.4, V16.5, V16.9, V17.4, V17.5, V17.9, V18.4, V18.5, V18.9, V19.4, V19.5, V19.6, V19.9, V20.4, V20.5, V20.9, V21.4, V21.5, V21.9, V22.4, V22.5, V22.9, V23.4, V23.5, V23.9, V24.4, V24.5, V24.9, V25.4, V25.5, V25.9, V26.4, V26.5, V26.9, V27.4, V27.5, V27.9, V28.4, V28.5, V28.9, V29.4, V29.5, V29.6, V29.9, V30.5, V30.6, V30.7, V30.9, V31.5, V31.6, V31.7, V31.9, V32.5, V32.6, V32.7, V32.9, V33.5, V33.6, V33.7, V33.9, V34.5, V34.6, V34.7, V34.9, V35.5, V35.6, V35.7, V35.9, V36.5, V36.6, V36.7, V36.9, V37.5, V37.6, V37.7, V37.9, V38.5, V38.6, V38.7, V38.9, V39.4, V39.5, V39.6, V39.9, V40.5, V40.6, V40.7, V40.9, V41.5, V41.6, V41.7, V41.9, V42.5, V42.6, V42.7, V42.9, V43.5, V43.6, V43.7, V43.9, V44.5, V44.6, V44.7, V44.9, V45.5, V45.6, V45.7, V45.9, V46.5, V46.6, V46.7, V46.9, V47.5, V47.6, V47.7, V47.9, V48.5, V48.6, V48.7, V48.9, V49.4, V49.5, V49.6, V49.9, V50.5, V50.6, V50.7, V50.9, V51.5, V51.6, V51.7, V51.9, V52.5, V52.6, V52.7, V52.9, V53.5, V53.6, V53.7, V53.9, V54.5, V54.6, V54.7, V54.9, V55.5, V55.6, V55.7, V55.9, V56.5, V56.6, V56.7, V56.9, V57.5, V57.6, V57.7, V57.9, V58.5, V58.6, V58.7, V58.9, V59.4, V59.5, V59.6, V59.9, V60.5, V60.6, V60.7, V60.9, V61.5, V61.6, V61.7, V61.9, V62.5, V62.6, V62.7, V62.9, V63.5, V63.6, V63.7, V63.9, V64.5, V64.6, V64.7, V64.9, V65.5, V65.6, V65.7, V65.9, V66.5, V66.6, V66.7, V66.9, V67.5, V67.6, V67.7, V67.9, V68.5, V68.6, V68.7, V68.9, V69.4, V69.5, V69.6, V69.9, V70.5, V70.6, V70.7, V70.9, V71.5, V71.6, V71.7, V71.9, V72.5, V72.6, V72.7, V72.9, V73.5, V73.6, V73.7, V73.9, V74.5, V74.6, V74.7, V74.9, V75.5, V75.6, V75.7, V75.9, V76.5, V76.6, V76.7, V76.9, V77.5, V77.6, V77.7, V77.9, V78.5, V78.6, V78.7, V78.9, V79.4, V79.5, V79.6, V79.9, V80.0, V80.1, V80.2, V80.3, V80.4, V80.5, V80.6, V80.7, V80.8, V80.9, V81.1, V82.1, V82.9, V83.0, V83.1, V83.2, V83.3, V84.0, V84.1, V84.2, V84.3, V85.0, V85.1, V85.2, V85.3, V86.0, V86.1, V86.2, V86.3, V87.0, V87.1, V87.2, V87.3, V87.4, V87.5, V87.6, V87.7, V87.8, V87.9, V89.2, V89.3	Road traffic injury
Poisoning	E850–E869	X40–X49	Poisoning
Swimming pool injury	E883.0, E910.5, E910.6	W16, W67, W68	Swimming pool falls and drowning

Table 3: Avoidable mortality conditions and International Classification of Diseases (ICD) codes used

continued

Potentially avoidable condition	ICD-9 codes	ICD-10 codes	Conditions involved
Sport injury	E884.0, E884.5, E886.0, E917.0, E927	W01.30, W02, W03.30, W09, W21, X50	Falls from playground equipment, sport injury
Fire	E890–E899	X00–X09	Burns and scalds
Drowning	E910.0–E910.4, E910.7–E910.9, E984	W65, W69, W70, W73, W74, Y21	Drowning
Suicide	E950–E959, E980–E989	X60–X84,Y87.0, Y10–Y34	Suicide
Other infections	023–031, 034–036, 084, 320, 770.0, 771.1–771.2, 771.4–771.9	A23–A26, A28.0, A28.2–A28.9, A30, A31, A32.9, A38, A39, A46, B50–B54, G00, G01, J02.0, P23, P35.1–P35.9, P36–P39	Brucellosis plus other zoonoses, streptococcus, malaria, meningitis, congenital
Cervical cancer	180	C53	Cervical cancer
Thyroid disease	240–242, 244	E03.2, E03.8, E03.9, E04–E05, E89.0	Goitre, thyrotoxicosis, hypothyroidism
Newborn screening conditions	243, 255.2, 270.1, 271.1	E03.1, E25, E70.0, E70.1, E74.2	Congenital hypothyroidism, CAH, PKU, galatosaemia
Diabetes	250	E10–E14	Diabetes
Epilepsy	345	G40–G41	Epilepsy
Ear infections	381–383	H65–H70	Otitis media and mastoiditis
Rheumatic fever/ heart disease	390–398	I00–I09	Acute rheumatic fever, heart disease
Hypertensive disease	401–405, 437.2	I10–I15, I67.4	Hypertensive disease
Respiratory infections	460–466, 480–487	J00, J01.1–J01.2, J01.8–J01.9, J02–J06, J10, J11.0, J12–J15, J16.8, J17.0–J17.2, J17.8, J18.0, J18.8, J20–J22	Respiratory infections including pneumonia and influenza
Asthma	493	J45–J46	Asthma
Peptic ulcer	531–534	K25–K28	Gastric and duodenal ulcers
Pregnancy complications	630–632, 634–676	O01–O08, O10–O99	Complications of pregnancy
Musculoskeletal infections	680–686, 711, 730	L01–L08, L98.0, M00, M01.1–M01.3, M01.5–M01.8, M02.1, M02.3, M03.2, M35.2, M46.2, M86, M87.1–M87.9, M89.6, M90.0–M90.2	Skin, bone and joint infections
Stomach cancer	151	C16	Stomach cancer
Cancer of uterus	182, 179	C54, C55	Cancer of uterus
Cancer of testis	186	C62	Cancer of testis
Eye cancer	190	C69	Eye cancer
Thyroid cancer	193	C73	Thyroid cancer
Hodgkin's disease	201	C81	Hodgkin's disease
Leukaemia	204	C91.0–C91.3, C91.7, C91.9	Lymphoid leukaemias

Table 3: Avoidable mortality conditions and International Classification of Diseases (ICD) codes used

continued

Potentially avoidable condition	ICD-9 codes	ICD-10 codes	Conditions involved
Benign cancers	210–234	D10–D36	Benign and in situ cancers
Appendicitis	540–543	K35–K38	Appendicitis
Intestinal obstruction and hernia	550–553, 560	K40–K46, K56	Intestinal obstruction and hernia
Gallbladder disease	574–576	K80–K83, K91.5	Gallbladder disease
Acute renal failure	584	N17	Acute renal failure
Congenital anomalies	743–746.6, 746.8–747.9, 749–757	Q10–Q23.3, Q23.8–Q23.9, Q24–Q28, Q35–Q84	Congenital cardiac, digestive, genito-urinary, musculoskeletal anomalies
Birth trauma and asphyxia	767–768, 770.1, 772.0, 772.3	P10–P15, P20–P21, P50, P51, P95	Birth trauma and asphyxia
Other perinatal conditions	766, 769, 770.2–770.6, 770.8–770.9, 772.1–772.2, 772.4–772.9, 773–779	P08, P22, P22.1, P25, P26, P28, P52–P96	Respiratory disease, haemolytic disease, jaundice, etc
Iatrogenic conditions	E870–E879	Y60–Y84	Complications of treatment